

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

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ORDER NO. R4-2010-XXXX

NPDES NO. CA0053856

WASTE DISCHARGE REQUIREMENTS FOR
CITY OF LOS ANGELES

TERMINAL ISLAND ~~TREATMENT-WATER RECLAMATION~~ PLANT
DISCHARGE TO LOS ANGELES OUTER HARBOR VIA DISCHARGE OUTFALL NO. 001

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information

Discharger	City of Los Angeles
Name of Facility	Terminal Island Treatment-Water Reclamation Plant
Facility Address	445 Ferry Street,
	San Pedro, California 90731-7493
	Los Angeles County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

The discharge by the City of Los Angeles from the discharge point of the Terminal Island ~~Treatment-Water Reclamation~~ Plant identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Tertiary treated wastewater plus brine waste	33° 43' 19.6" N	118° 14' 36.2" W	Los Angeles Outer Harbor

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	May 6, 2010
This Order shall become effective on:	June 25, 2010
This Order shall expire on:	April 10, 2015
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	180 days prior to the Order expiration date

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I, Tracy J. Egoscue, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on May 6, 2010.

Tracy J. Egoscue, Executive Officer

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I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 4. Facility Information

Discharger	City of Los Angeles
Name of Facility	Terminal Island <u>Treatment-Water Reclamation</u> Plant
Facility Address	445 Ferry Street,
	San Pedro, California 90731-7493
	Los Angeles County
Facility Contact, Title, and Phone	Douglas Bohlmann, Plant Manager, (310)-732-4705
Mailing Address	As same as above
Type of Facility	Publicly-Owned Treatment Works
Facility Design Flow	30 Million Gallons per Day

II. FINDINGS

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter Regional Board), finds:

- A. Background.** The City of Los Angeles (City or Discharger) is currently discharging pursuant to Order Nos. R4-2005-0024¹ and R4-2008-0082² and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0053856. The Discharger submitted a Report of Waste Discharge (ROWD), dated September 3, 2009 and received by this Regional Board on September 8, 2009, and applied for an NPDES permit renewal to discharge up to 30 millions gallons per day (MGD) of tertiary treated wastewater from Terminal Island Treatment-Water Reclamation Plant (TITWRP, Plant, or Facility) to the Los Angeles Outer Harbor (Harbor). The application was deemed complete on March 9, 2010. This Order is used to regulate not only tertiary treated wastewater but also the current quantity of brine waste generated from TITWRP.

¹ Order No. R4-2005-0024 was adopted by this Regional Board on April 7, 2005. This Order was revised twice with clarifications and corrections of typographic errors, which were adopted by this Regional Board on June 21, 2005 and September 28, 2005.

² On September 6, 2007, the City submitted background concentration study results for the Los Angeles Harbor, and requested of a reopening of TITWRP's NPDES Order No. R4-2005-0024 to include dilution credit for ammonia, MBAS, copper, lead, mercury, and silver. The results indicate that the application of a dilution credit of 61 for these constituents is appropriate. On October 2, 2008, this Regional Board adopted Order No. R4-2008-0082, which amended Order No. R4-2005-0024. Order No. R4-2008-0082 endorsed the dilution credit of 61 to the final effluent limitations of total ammonia, MBAS, cooper, lead, mercury, and silver, which interim limits were also simultaneously removed from Order No. R4-2005-0024.

1. **Phase Out.** Discharge to the Harbor is also subject to the State Water Resources Control Board's (State Board's) *Enclosed Bays and Estuaries Policy* established in 1974, which requires Publicly-Owned Treatment Works (POTW) discharges to enclosed bays and estuaries to cease at the earliest practicable date. The Harbor has been defined as an enclosed bay³. On June 27, 1977, this Regional Board issued Order No. 77-113 requiring the City to phase out the TI~~T~~WRP discharge to the Harbor at the earliest practicable date or demonstrate that the discharge enhances the quality of the receiving water. The City opted for the latter approach but was not successful in demonstrating that the TI~~T~~WRP effluent enhances the water quality in the Harbor. On November 25, 1985, this Regional Board issued Order No. 85-77, requiring the City to cease the TI~~T~~WRP discharge to the Harbor at the earliest practicable date. Additionally, on October 31, 1994, the Regional Board issued the Resolution No. 94-009 to approve the proposal by the City to ultimately phase out the discharge of tertiary-treated wastewater effluent from the TI~~T~~WRP into the Harbor at the earliest practicable date and to implement by 2020 through implementation of a Water Recycling Program with the goal of doubling water reuse of TIWRP effluent within six years after the startup of the initial reclamation phase, and achieving total reuse by 2020 covering two separate projects.
2. **Water Recycling Program.** To implement Regional Board Resolution No. 94-009, the City has been constructing the Harbor Water Recycling Project (HWRP) in phases with the ultimate goal of producing 22.5 mgd recycled water for reuse in the Dominguez Gap Barrier and other applications, including irrigation, industrial, and recreational. This recycled water is produced at the TI~~T~~WRP's Advanced Wastewater Treatment Facility (AWTF). Table 5 presents the proposed quantity of recycled water to be produced for each phase.

Table 5. Proposed Recycled Water Production Capacity

Phase	Recycled Water (mgd)	Brine Waste (mgd)
I	5.0	1.7
II	12.0	4.0
III	22.5	7.5

The HWRP – Dominguez Gap Barrier Project (Order No. R4-2003-0134), adopted on October 2, 2003, was permitted to inject up to 5⁴ mgd recycled water to the Dominguez Gap Barrier (Barrier) to prevent seawater intrusion.

³ The receiving water for the TI~~T~~WRP discharge is a part of the Harbor of the Regional Board designated Dominguez Channel – Los Angeles/Long Beach Watershed Management Area (WMA) and a part of Dominguez Channel Watershed. The Los Angeles Harbor has been defined as an enclosed bay listed in *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan)*.

⁴ To implement Regional Board Resolution No. 94-009, the City has been constructing the HWRP in 3 phases with the ultimate goal of treating 30 mgd effluent and producing 22.5 mgd recycled water for reuse in the Barrier and other applications.

The HWRP – Nonpotable Reuse Project (Order No. R4-2003-0025), adopted on January 30, 2003, was permitted to use the recycled water for irrigation, industrial, and recreational uses.

The City in its April 9, 2010 Comment Letter for the tentative TIWRP Permit has committed to provide an update in 2012 to the Regional Board Executive Officer on its progress and future planning for the AWTF based upon available funding and demand for recycled water. However, the City shall submit a progress report every year as specified in Section X.D.5. of the MRP.

3. **Dilution Credits.** On May 28, 2004, the Regional Board received the City's final report of the Mixing Zone and Dilution Credit Study⁵ (Study). On September 3, 2004, the State Board partially approved the results of the Study, which is *"These dilution ratios appear to be appropriate for establishing an acute mixing zone and dilution credit as defined in the SIP⁶."* State Board staff suggested the use of a chronic dilution ratio^a conservative applied as the unmodified acute dilution ratio^a, i.e., $D_{\text{chronic}} = D_{\text{acute}}$. This resulted in a single dilution credit, similar to the minimum initial dilution ratio^a D_{minimum} found in most ocean discharge permits. The quantity of tertiary-treated effluent discharged into the Harbor fluctuates and ranges between 15 and 23 mgd. ~~The Study did not provide the sufficient information to cover the current daily maximal flow. Therefore, the~~The most conservative lowest dilution credit of 61, based on 30 mgd of design capacity totally recycled to produce approximately 7.8 mgd of brine waste from among a wide range of current and future discharge scenarios simulated and reported in the Study, was chosen for calculating the final effluent limitations specified in Order Nos. R4-2005-0024, R4-2008-0082, and R4-2010-XXXX for the purpose of protecting aquatic life, human health, and receiving water quality. The dilution credits of 61, based on 30 mgd of design capacity, will continue to apply.~~However, once the discharge from the TITP is phased out in 2020, there could be as much as approximately 7.5 mgd of brine waste, which may be discharged into the Harbor. However, the current dilution credits of 61 will no longer be applicable to pollutants with final effluent limitations due to the lower flow rate and higher density of pure brine waste discharge, which theoretically result in smaller dilution credits. The City should prepare to conduct another special study, based on the pure brine waste discharge, in order to receive a different dilution credit granted by the State Board in the future.~~
4. **Total Cyanide Special Study.** There were two phases to the total cyanide special study. Prior to Phase 1 of this study, the minimal-method detection limit (MDL) for total cyanide at the City of Los Angeles Environmental Monitoring Division (CLAEMD) was 4 µg/L. The current monthly average and daily maximum cyanide effluent limitations in Order No. R4-2005-0024 for the TI~~FWRP~~ are 0.5 µg/L and 1 µg/L, respectively. The interim monthly average

⁵ Larry Walker Associates (2004). "Terminal Island Treatment Plant Outer Los Angeles Harbor - Dilution Study Report of Findings". Prepared for City of Los Angeles Bureau of Sanitation Regulatory Affairs Division. May 14, 2004. 49 pp.

⁶ See Section II.J. of Limitations and Discharge Requirement for definition.

limit was 11 µg/L, which expired on March 10, 2010. Since CLAEMD's MDL was higher than their NPDES permit's monthly average limitation of 0.5 µg/L, CLAEMD conducted Phase 1 of the study to lower the MDL and to determine if the Harbor's ambient cyanide concentration levels were less than the permit limitation and the California Toxics Rule (CTR) Criterion Maximum and Criterion Continuous Concentrations of 1 µg/L.

CLAEMD met the objectives of Phase 1 of the study by achieving a MDL of 0.5 µg/L for cyanide and by beginning the collection and testing of the Harbor's ambient water samples to establish background cyanide concentration levels.

In Phase 2 of the study (completed in the third quarter of 2009), CLAEMD collected cyanide samples from twelve sampling sites (Figure E-1 of the Monitoring and Reporting Program) located in the Harbor between May 2008 through April 2009. The cyanide data, which consisted of 144 samples were all non-detect and less than the MDL of 0.5 µg/L except for May 15, 2008, with 0.5 µg/L total cyanide at Station HW64, and June 18, 2008, with 0.7 µg/L total cyanide at Station HW50. The arithmetic mean of total cyanide concentration in the receiving water of the Harbor is 0.501⁷ µg/L, which is less than the salt water criteria of 1.0 µg/L for cyanide specified in the California Toxic Rules. Therefore, the dilution credit of 61 will be used to calculate the cyanide final effluent limitations, if cyanide's maximum effluent concentration exceeds its salt water criteria of 1.0 µg/L.

For the purposes of this Order, references to the "Discharger" or "Permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

- B. Plant Description.** The Discharger owns and operates the Plant. The Plant was originally built in 1935 with a treatment process comprised of preliminary treatment and primary treatment with the effluent discharged into the Los Angeles Inner Harbor. The TWRP was upgraded to secondary treatment employing an activated sludge process in 1977, and further upgraded to tertiary treatment in 1996. The Outfall⁸ Discharge Serial No. 001 located at the Los Angeles Outer Harbor was complete in August 1996. The start-up operation at the tertiary wastewater treatment process began in January 1997. The new effluent monitoring station⁹, which

⁷ Per Section 1.4.3.2. of the SIP, 0.501 µg/L results from the arithmetic mean of the reported values 0.7 µg/L and 0.5 µg/L, and ten-142 reported non-detects at the detection limit of 0.5 µg/L.

⁸ Discharge Serial No. 001 of the TWRP effluent discharge location was modified three times and extended to 900 feet beyond the shoreline near Pier 400 and to a depth of 32 feet. The new discharge point is through an 800-foot, multi-port diffuser consisting of 100, 4-inch ports to improve initial dilution of the discharge.

⁹ Section VI.2. of Monitoring and Reporting Program CI-2171, adopted by this Regional Board on April 7, 2005, required that the City of Los Angeles construct a new effluent sampling station at the Terminal Island Treatment Plant, which captures the tertiary treated effluent as well as the brine waste discharged from the AWTF. In December 2006, the City constructed a new effluent sampling station replacing the old effluent sampling station, which only captured the tertiary treated effluent. This new effluent sampling station was completed in August 2007. On August 5, 2008, the City requested approval of the newly constructed effluent sampling station to replace the effluent sampling station, which only captured tertiary treated effluent.

captures the combined flows of the tertiary-treated effluent and the brine waste discharge from the TITWRP's AWTF to the Harbor via Discharge Point 001 was constructed and completed in July 2008. Treatment at the TITWRP consists of wastewater processing, advanced wastewater treatment processing, and biosolids processing. Attachment B depicts a schematic of the Plant wastewater flows. Attachment C provides a map of the area around the Plant.

1. Wastewater Processing - consists of preliminary treatment (bar screening and aerated grit removal), primary treatment (primary sedimentation), secondary treatment (secondary clarification and activated sludge biological treatment), tertiary treatment (effluent filtration). Under normal operating conditions, the discharge of the tertiary-treated effluent to the Harbor, a water of the United States, is not chlorinated.

The TITWRP has two bypass points: one for primary effluent and the other for secondary effluent. The primary effluent bypass point is operated by a valve and has never been used since it was put in service in 1977. The secondary bypass has been used several times since the filter facility was put into service in January 1997. The secondary effluent can be automatically overflowed to the filtered effluent discharge channel if the filter influent pumps are inoperable or overloaded. The latest unfiltered secondary effluent discharged into the Harbor was on August 26, 2004.

2. AWTF Processing – includes microfiltration, reverse osmosis, and disinfection.

The current maximum brine waste stream generated from the AWTF is approximately 1.75 MGD and is allowed to be discharged into the Harbor. Sodium bisulfate is added to neutralize any chlorine added to the brine waste prior to discharge to the Harbor.

3. Biosolids Processing –

- a. Land Application – Approximately 40 to 50 wet tons of sludge per day were thickened, anaerobically digested, and dewatered, which produced approximately 10 dry tons of sludge daily that was hauled to the City's Green Acres Farm located at Kern County for land application.

- b. Renewable Energy Project – Under the Terminal Island Renewable Energy (TIRE) Project¹⁰, biosolids are injected into the ground below the

Regional Board staff conducted a jointed NPDES site inspection with the USEPA contractors on October 20, 2008. The Regional Board approved the new effluent sampling station at the Terminal Island Treatment Plant on January 15, 2009.

¹⁰ In 2008, the City and Terralog Technologies started the experimental TIRE project at the Terminal Island Wastewater Plant. TIRE is an innovative technology to convert biosolids into energy by deep well injection and geothermal biodegradation. The US EPA permitted the project as an experimental technology. TIRE's permit allows for maximum injection capacity of four hundred wet tons per day of biosolids. One injection well and one monitoring well were drilled and completed in weakly consolidated, high permeability, sand formations at depths from 3,800 to 5,300 ft. The construction of the injection well and the existing observation

Plant. Since the start up of the TIRE project, most of wet sludge produced at the TIFWRP is currently injected.

The TIFWRP treats the wastewater generated from over 100 businesses in the heavily industrialized Los Angeles Harbor area and serves approximately 130,000 people in San Pedro, Wilmington, and a portion of Harbor City areas. Flow to the TIFWRP consists of domestic, commercial and industrial wastewater. Industrial wastewater sources are from the fish processing industries, petroleum industries, and docking and storage facilities. For Fiscal Year 2009, industrial wastewater represented approximately 40% of the total flow to the plant. Raw wastewater reaches the TIFWRP through a series of pumping plants and force mains.

- C. Legal Authorities.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).
- D. Background and Rationale for Requirements.** The Regional Board developed the requirements in this Order based on information submitted as part of the ROWD and application, through Monitoring and Reporting Programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through L are also incorporated into this Order.
- E. California Environmental Quality Act (CEQA).** Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.
- F. Technology-based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations¹¹, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133 and Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. A detailed

well was completed on July 2007, and project start up date was July 2, 2008. One addition monitoring well is under construction and will be completed in March 2010. The biosolids are injected into soft, high porosity, formation sands, using technology optimized for slurry injection, for a period of 5 years. Currently, the City is injecting all of the Plant's biosolids up to 50 wet tons a day at the TIRE injection facility. It is projected that up to 150 wet tons per day (19,300 dry tons per year) of biosolids from the City's Hyperion Treatment Plant could be brought on site for injection in the future.

¹¹ All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

- G. Water Quality-Based Effluent Limitations.** Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements or other provisions, is discussed in Section IV.C.2 of the Fact Sheet.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

- H. Water Quality Control Plans.** The Regional Board adopted a Water Quality Control Plan for the Los Angeles Region (hereinafter Basin Plan) on June 13, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. In addition, the Basin Plan implements State Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the receiving waters are as follows:

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Table 6. Basin Plan Beneficial Uses – Surface Waters

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Outer Harbor (Hydro. Unit No. 405.12)	<u>Existing:</u> Navigation; water contact and non contact recreation; commercial; marine habitat; threatened or endangered species <u>Potential:</u> shellfish harvesting
	Marinas (Hydro. Unit No. 405.12)	<u>Existing:</u> Industry water supply; navigation; water contact and non contact recreation; commercial; marine habitat; threatened or endangered species, <u>Potential:</u> shellfish harvesting
	Public Beach Area (Hydro. Unit No. 405.12)	<u>Existing:</u> Navigation; water contact and non contact recreation; commercial; marine habitat; wildlife habitat; threatened or endangered species; shellfish harvesting <u>Potential:</u> Spawning, reproduction, and/or early development
	All Other Inner Areas (Hydro. Unit No. 405.12)	<u>Existing:</u> Industry water supply; navigation, non contact recreation, commercial; marine habitat; threatened or endangered species ¹² <u>Potential:</u> water contact recreation; shellfish harvesting
	Dominguez Channel Estuary ^{13, 14} (Hydro. Unit No. 405.12)	<u>Existing:</u> water contact and non contact recreation, commercial; estuary habitat; marine habitat; wildlife habitat; threatened or endangered species ^{12, 14} ; migration of aquatic organisms ¹⁵ ; spawning, reproduction, and/or early development ^{14, 15} <u>Potential:</u> navigation
	Los Angeles River Estuary ^{12, 13, 14} (Hydro. Unit No. 405.12)	<u>Existing:</u> Industry water supply; navigation; water contact and non contact recreation; commercial; estuary habitat; marine habitat; wildlife habitat; threatened or endangered species ^{12, 14} ; migration of aquatic organisms ^{14, 15} ; spawning, reproduction, and/or early development ^{14, 15} ; wetland habitat <u>Potential:</u> shellfish harvesting

REVISED TENTATIVE

Requirements of this Order implement the Basin Plan.

- ¹² One or more rare species utilizes all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.
- ¹³ Coastal waterbodies are also listed in Inland Surface Waters Table (2-1) or in Wetlands Table (2-4) of the Basin Plan.
- ¹⁴ These areas are engineered channels. All references to Tidal Prisms in Regional Board documents are functionally equivalent to estuaries.
- ¹⁵ Aquatic organisms utilize all bays, estuaries, lagoons and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas, which are heavily influenced by freshwater inputs.

1. **Ammonia Water Quality Objective (WQO).** The 1994 Basin Plan contained water quality objectives for ammonia to protect aquatic life, in Tables 3-1 through Tables 3-4. However, those ammonia objectives were revised, based upon freshwater¹⁶ and saltwater⁺⁵¹⁶ criteria.
 - a. **Freshwater Ammonia Water Objective** – On April 25, 2002, the Regional Water Board adopted the Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The ammonia Basin Plan amendment was approved by the State Board, the Office of Administrative Law, and USEPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively. Although the revised ammonia water quality objectives may be less stringent than those contained in the 1994 Basin Plan, they are still protective of aquatic life and are consistent with USEPA's 1999 ammonia criteria update.
 - b. **Saltwater Ammonia Water Objective** – On March 4, 2004, the Regional Board adopted the Resolution No. 2004-022, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters Not ~~Chrematistic~~ Characteristic of Freshwater (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The ammonia Basin Plan amendment is consistent with the U.S. EPA "Ambient Water Quality Criteria for Ammonia (Saltwater)-1989." The amendment revised the regulatory provisions of the Basin Plan by adding language to Chapter 3 "Water Quality Objectives." The saltwater ammonia Basin Plan amendment was approved by the State Board, the Office of Administrative Law, and USEPA on July 22, 2004, September 14, 2004, and May 19, 2005, respectively.

For inland surface waters not characteristic of freshwater (including enclosed bays, estuaries, and wetlands), the proposed-adopted objectives are a 4-day average concentration of unionized ammonia of 0.035 mg/L, and a one-hour average concentration of unionized ammonia of 0.233 mg/L. The proposed-adopted objectives are fixed concentrations of unionized ammonia, independent of pH, temperature, or salinity. The proposed-amendment includes an implementation procedure to convert un-ionized ammonia objectives to total ammonia effluent limits. The proposed-amendment also simplifies the implementation procedures for translating ammonia objectives into effluent limits in situations where a mixing zone has been authorized by the Regional Board. Finally, the proposed-amendment⁺⁵¹⁶ revises the implementation procedure for determining saltwater, brackish⁺⁵¹⁶ or freshwater conditions, to be consistent

¹⁶ The effluent limits were derived based on the salinity of the receiving waters. The CTR specifies that fresh water criteria apply at locations where the salinity is 1 part per thousand (ppt) or less 95% or more of the time, and marine water criteria apply at locations where the salinity is 10 ppt or more 95% or more of the time.

with the ~~proposed~~ objectives. The ~~proposed~~ objectives will apply only to inland surface waters not characteristic of freshwater (including enclosed bays, estuaries and wetlands) and do not impact the Ammonia Water Quality Objectives for ocean waters contained in the California Ocean Plan.

Based on the beneficial uses of the Basin Plan and salinity data of 33 to 35 ppt collected in the Harbor (HW23, HW24, HW33, and HW43) from 2006 to 2009, the receiving water in the Harbor is definitely a marine water. Therefore, the freshwater ammonia water objective is not applicable in the Harbor, and the saltwater ammonia water objectives will be used to calculate the final ammonia effluent limitations for the Facility (See Tables F2, F3, F4, and Section IV.C.2.b.vii. of the accompanying Attachment F).

2. **Thermal Plan.** The State Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Requirements of this Order implement the Thermal Plan.
3. **303(d) List.** On October 25, 2006, the State Board adopted a revised 303(d) list. The 2006 303(d) list was partially approved by the USEPA on November 30, 2006. However, on March 8, 2007, USEPA partially disapproved the State's 303(d) list, by disapproving the State's omission of impaired waters that met federal listing regulations or guidance. USEPA added additional water bodies and additional pollutants for waters already list by the State. On June 28, 2007, USEPA transmitted the final approved 2004-2006 Section 303(d) list, which serves as the State's most recent list of impaired waterbodies. The list (hereinafter referred to as the 303(d) list) was prepared in accordance with Section 303(d) of the Federal Clean Water Act to identify specific impaired waterbodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources.

The Los Angeles Harbor and nearby locations are on the 303(d) list for the following pollutants/ stressors, from point and non-point sources:

- a. Los Angeles Harbor – Cabrillo Marina, Hydrologic Unit No. 405.12

Source Unknown – DDT¹⁷ and PCBs¹⁶¹⁷

- b. Los Angeles Harbor – Consolidated Slip, Hydrologic Unit No. 405.12

Nonpoint Source – benthic community effects¹⁶¹⁷, cadmium (sediment)¹⁶¹⁷, chlordane (tissue and sediment)¹⁶¹⁷, chromium (sediment)¹⁶¹⁷, copper (sediment)¹⁶¹⁷, DDT (tissue, sediment, and fish consumption advisory)¹⁶¹⁷, dieldrin¹⁶¹⁷, lead (sediment)¹⁶¹⁷, mercury (sediment)¹⁶¹⁷, PCBs (tissue,

¹⁷ TMDL Requirement Status of A = Those requiring TMDLs

sediment, and fish consumption advisory)⁺⁶¹⁷, sediment toxicity⁺⁶¹⁷, toxaphene (tissue)⁺⁶¹⁷, and zinc (sediment)⁺⁶¹⁷

Source Unknown – 2-methylnaphthalene⁺⁶¹⁷, benzo(a)pyrene (PAHs)⁺⁶¹⁷, benzo(a)anthracene⁺⁶¹⁷, chrysene (C1-C4)⁺⁶¹⁷, phenanthrene⁺⁶¹⁷, and pyrene⁺⁶¹⁷

- c. Los Angeles Harbor – Fish Harbor, Hydrologic Unit No. 405.18

Nonpoint Source – DDT⁺⁶¹⁷, PAHs⁺⁶¹⁷, PCBs⁺⁶¹⁷

Source Unknown – benzo(a)pyrene (PAHs)⁺⁶¹⁷, benzo(a)anthracene⁺⁶¹⁷, chlordane⁺⁶¹⁷, chrysene (C1-C4)⁺⁶¹⁷, copper⁺⁶¹⁷, dibenzo(a,h)anthracene⁺⁶¹⁷, lead⁺⁶¹⁷, mercury⁺⁶¹⁷, phenanthrene⁺⁶¹⁷, pyrene⁺⁶¹⁷, sediment toxicity⁺⁶¹⁷, and zinc⁺⁶¹⁷

- d. Los Angeles Harbor – Inner Cabrillo Beach Area, Hydrologic Unit No. 405.12

Nonpoint Source – DDT (fish consumption advisory)⁺⁶¹⁷, PCBs (fish consumption advisory)⁺⁶¹⁷

Source Unknown – copper⁺⁶¹⁷, and indicator bacteria¹⁸

- e. Los Angeles River Estuary – Queensway Bay, Hydrologic Unit No. 405.12

Nonpoint Source – chlordane (sediment)⁺⁶¹⁷, DDT (sediment)⁺⁶¹⁷, lead (sediment)⁺⁶¹⁷, PCBs (sediment)⁺⁶¹⁷, and zinc (sediment)⁺⁶¹⁷

Source Unknown – sediment toxicity⁺⁶¹⁷, and trash⁺⁶¹⁷

- f. Los Angeles/Long Beach Outer Harbor – inside breakwater, Hydrologic Unit No. 405.12

Nonpoint Source – DDT⁺⁶¹⁷, and PCBs⁺⁶¹⁷

Source Unknown – sediment toxicity⁺⁶¹⁷

- g. Los Angeles/Long Beach Inner Harbor, Hydrologic Unit No. 405.18

Nonpoint/Point Source – beach closures⁺⁶¹⁷, DDT⁺⁶¹⁷, PCBs⁺⁶¹⁷, and sediment toxicity⁺⁶¹⁷

Nonpoint Source – benthic community effects⁺⁶¹⁷

Source Unknown – copper⁺⁶¹⁷, and zinc⁺⁶¹⁷

¹⁸ TMDL Requirement Status of B = Being addressed by USEPA approved TMDLs

- h. Dominguez Channel Estuary – Unlined Portion below Vermont Ave, Hydrologic Unit No. 405.12

Nonpoint/Point Source – ammonia⁺⁶¹⁷, benthic community effects⁺⁶¹⁷, chlordane (tissue)⁺⁶¹⁷, coliform bacteria⁺⁶¹⁷, DDT (tissue and sediment)⁺⁶¹⁷, dieldrin (tissue)⁺⁶¹⁷, lead (tissue)⁺⁶¹⁷, and zinc (sediment)⁺⁶¹⁷

Source Unknown – benzo(a)pyrene (PAHs)⁺⁶¹⁷, benzo(a)anthracene⁺⁶¹⁷, chrysene (C1-C4)⁺⁶¹⁷, PCBs⁺⁶¹⁷, phenanthrene⁺⁶¹⁷, and pyrene⁺⁶¹⁷

4. **Total Maximum Daily Load (TMDL).** A TMDL is a determination of the amount of a pollutant, from point, nonpoint, and natural background sources, including a margin of safety, which may be discharged to a water quality-limited water body. Section 303(d) of the CWA established the TMDL process. The statutory requirements are codified at 40 CFR, § 130.7. TMDLs must be developed for the pollutants of concern which impact the water quality of water bodies on the 303(d) list. A 13- year schedule for development of TMDLs in the Los Angeles Region was established in a consent decree (Heal the Bay Inc., et al. v. Browner, et al. C 98-4825 SBA) (United States District Court, Northern District of California, 1999) approved on March 22, 1999. In compliance with the consent decree, a TMDL for bacterial indicators in the Los Angeles Harbor (Inner Cabrillo Beach and Main Ship Channel) was established on March 10, 2005. TMDLs for listings of toxicity, organics and metals for the Los Angeles and Long Beach Harbors identified under the consent decree must be completed by March 2012.
5. **Sediment Quality Objectives (SQO).** On September 16, 2008, the State Board adopted *Water Quality Control Plan for Enclosed Bays and Estuaries – Part 1 Sediment Quality (SQO)*, under State Board Resolution No. 2008-0070. The California Office of Administrative Law approved the rulemaking file and regulatory action on January 5, 2009. The USEPA approved SQO on August 25, 2009. The SQO provides narrative sediment quality objectives protecting benthic communities from direct exposure to pollutants in sediments and minimizing human health risk from consumption of fish and selfish tissue that may pose a risk as a result of contaminants in sediments. The SQO also includes a description of the applicable beneficial uses, a description of how the narrative objectives may be interpreted and the means by which these narrative objectives shall be applied to existing water quality protection plans.
- I. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

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- J. State Implementation Policy.** On March 2, 2000, the State Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
- K. Compliance Schedules and Interim Requirements.** Section 2.1 of the SIP provides that, based on a Discharger's request and demonstration that it is infeasible for an existing Discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective.
- L. Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. § 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.
- M. Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on Biochemical Oxygen Demand (BOD₅), Total Suspended Solids (TSS), and pH. Restrictions on BOD₅, TSS, and pH are discussed in the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water

quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless “applicable water quality standards for purposes of the CWA” pursuant to section 131.21(c)(1).

This Order contains pollutant restrictions that are more stringent than applicable federal requirements and standards. Specifically, this Order includes effluent limitations for BOD and TSS that are more stringent than applicable federal standards, but that are nonetheless necessary to meet numeric objectives or protect beneficial uses. The rationale for including these limitations is explained in Section IV.B. of the Fact Sheet.

- N. Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Board established California’s antidegradation policy in State Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Board’s Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in detail in the Fact Sheet the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Board Resolution No. 68-16.
- O. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in this Order are less stringent than those in the previous Order. As discussed in detail in the Fact Sheet this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations. ~~All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.~~
- P. Monitoring and Reporting.** Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program (MRP) is provided in Attachment E.

- Q. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.
- R. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections IV.B, IV.C, V.B, and VI.C of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.
- S. Notification of Interested Parties.** The Regional Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.
- T. Consideration of Public Comment.** The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

IT IS HEREBY ORDERED, that Order Nos. R4-2005-0024 and R4-2008-0082 are superseded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

- A. Discharge of wastewater at locations different from that described in this Order is prohibited.
- B. The bypass or overflow of untreated wastewater or wastes to surface waters or surface water drainage courses is prohibited, except as allowed in Standard Provision I.G. of Attachment D, Standard Provisions.
- C. The ~~maximum daily flow of influent~~monthly average dry weather flow from the collection system to the headworks of the Plant shall not exceed the design capacity of 30 MGD and an instantaneous maximum of 50 MGD, respectively. ~~This prohibition is not applicable~~ during wet weather storm events.

- D. The Discharger shall not cause degradation of any water supply, except as consistent with State Board Resolution No. 68-16.
- E. The treatment or disposal of wastes from the facility shall not cause pollution or nuisance as defined in section 13050, subdivision (l) and (m) of the CWC.
- F. The discharge of any substances in concentrations toxic to animal or plant is prohibited.
- G. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.
- H. The discharge of treated municipal wastewater but brine waste to the Harbor is generally prohibited by 2020 and shall be eliminated at the earliest practicable date. Until the discharge is eliminated, the following requirements of Section IV. apply.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations

1. Final Effluent Limitations – Discharge Point 001

- a. Pending elimination of the discharge from the Harbor, the Discharger shall maintain compliance with the following effluent limitations with compliance measured at the Discharge Point 001 as described in the attached MRP:

Table 7. Effluent Limitations at 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD ₅ 20°C	mg/L	15 ¹⁹	30 ⁺¹⁸¹⁹	40 ⁺¹⁸¹⁹	--	--
	lbs/day ²⁰	3,800	7,500	10,000	--	--
Total Suspended Solids (TSS)	mg/L	15 ⁺¹⁸¹⁹	30 ⁺¹⁸¹⁹	40 ⁺¹⁸¹⁹	--	--
	lbs/day ⁺¹⁹²⁰	3,800	7,500	10,000	--	--
pH	standard units	--	--	--	6.5	8.5
Oil and Grease	mg/L	10 ⁺¹⁸¹⁹	--	15 ⁺¹⁸¹⁹	--	--
	lbs/day ⁺¹⁹²⁰	2,500	--	3,800	--	--
Settleable Solids	ml/L	0.1	--	0.3	--	--

¹⁹ The existing permit limit is carried over.

²⁰ The mass emission rates are based on the plant design flow rate of 30 mgd, and are calculated as follows: Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Residual Chlorine	mg/L	--	--	0.1 ^{1819, 21}	--	--
	lbs/day ¹⁹²⁰	--	--	250	--	--
MBAS ²²	mg/L	31	--	--	--	--
	lbs/day ¹⁹²⁰	7,800	--	--	--	--
Ammonia Nitrogen ²¹²²	mg/L	29	--	195	--	--
	lbs/day ¹⁹²⁰	7,300	--	49,000	--	--
Copper ²¹²²	µg/L	86	--	220	--	--
	lbs/day ²³	21	--	55	--	--
<u>Radioactivity²⁴</u>						
<u>Gross alpha</u>	<u>pCi/L</u>	--	--	<u>15</u>	--	--
<u>Gross beta</u>	<u>pCi/L</u>	--	--	<u>50</u>	--	--
<u>Radium 226 & 228</u>	<u>pCi/L</u>	--	--	<u>5</u>	--	--
<u>Tritium</u>	<u>pCi/L</u>	--	--	<u>20,000</u>	--	--
<u>Strontium</u>	<u>pCi/L</u>	--	--	<u>8</u>	--	--
<u>Uranium</u>	<u>pCi/L</u>	--	--	<u>20</u>	--	--

2. Other Effluent Limitations Applicable to Discharge Point 001

- Percent Removal:** The average monthly percent removal of BOD 5-day 20°C and total suspended solids shall not be less than 85 percent.
- The temperature of wastes discharged shall not exceed 86°F except as a result of external ambient temperature.
- For the protection of the water contact recreation beneficial use, the wastes discharged to water courses shall have received adequate treatment, so that the turbidity of the wastewater does not exceed any of the following: (a) an average of 2 Nephelometric turbidity units (NTUs)

²¹ For continuous total residual chlorine recording devices that require greater than one minute to level off after the detection of a spike: if it can be demonstrated that a stoichiometrically appropriate amount of dechlorination chemical has been added to effectively dechlorinate the effluent to 0.1 mg/L or less, then the exceedance over one minute, but not for more than five minutes, will not be considered to be a violation.

²² This constituent is granted with the dilution credits of 61.

²³ The mass emission rates are based on the plant design flow rate of 30 mgd, and are calculated as follows: Flow (MGD) x Concentration (µg/L) x 0.00834 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations

²⁴ ~~The origins of radioactivity are based on Title 22, Chapter 15, Article 5, Sections 64442 and 64443, California Code of Regulations. Radioactivity of the wastes discharged shall not exceed these limits or subsequent revisions.~~

within a 24-hour period; (b) 5 NTUs more than 5 percent of the time (72 minutes) within a 24-hour period; and (c) 10 NTU at any time.

d. Acute Toxicity Limitation:

i. The acute toxicity of the effluent shall be such that:

- (i) the average survival in the undiluted effluent for any three (3) consecutive 96-hour static renewal bioassay tests shall be at least 90%, and
- (ii) no single test producing less than 70% survival.

~~ii. If either of the above requirements IV.A.2.d.i.(i) or IV.A.2.d.i.(ii) is not met, the Discharger shall conduct six additional tests, approximately every two weeks, over a 12-week period. The Discharger shall ensure that results of a failing acute toxicity test are received by the Discharger within 24 hours of completion of the test and the additional tests shall begin within 5 business days of receipt of the result. If the additional tests indicate compliance with acute toxicity limitation, the Discharger may resume regular testing. However, if the results of any two of the six accelerated tests are less than 90% survival, then the Discharger shall begin a Toxicity Identification Evaluation (TIE). The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the objective.~~

~~iii. If the initial test and any of the additional six acute toxicity bioassay tests results are less than 70% survival, the Discharger shall immediately implement Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan.~~

iv.ii. The Discharger shall conduct acute toxicity monitoring as specified in Section VI.A of Attachment E - Monitoring and Reporting Program (MRP).

e. Chronic Toxicity Trigger and Requirements:

- i. The chronic toxicity of the effluent shall be expressed and reported in toxic units, where:

$$TU_c = \frac{100}{NOEC}$$

The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable

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effect on test organisms, as determined by the results of a critical life stage toxicity test.

- ii. There shall be no chronic toxicity in the effluent discharge where a dilution credit of 61 is granted.

~~iii. A marine vertebrate (Topsmelt, *Atherinops affinis*), a marine invertebrate (mysid, *Holmesimysis costata*; pacific oyster, *Crassostrea gigas*; mussel, *Mytilus* spp.; red abalone, *Haliotis rufescens*; purple sea urchin, *Strongylocentrotus purpuratus*; or sand dollar, *Dendraster Dendraster excentricus*), and a marine plant (giant kelp, *Macrocystis pyrifera*) shall be chosen for chronic toxicity screening tests. During the chronic toxicity screening tests, they are all subject to a maximum effluent concentration of 60%²⁵. If topsmelt is selected as the most sensitive species, then the chronic toxicity tests shall be conducted at 100% effluent.~~

~~iv. If the chronic toxicity²⁶ of the effluent exceeds 62 TUc, than then the Discharger shall immediately implement accelerated chronic toxicity testing according to Attachment E – MRP, Section VI.B.3. If any three out of the initial test and the six accelerated tests results exceed 62 TUc, the Discharger shall initiate a TIE and implement the Initial Investigation TRE Workplan, as specified in Attachment E – MRP, Section V.D.~~

- v.iii. The Discharger shall conduct chronic toxicity monitoring as specified in Section VI.B. of Attachment E – MRP.

B. Reclamation Specifications

1. Current Reclaimed Projects – The production, distribution, and reuse of recycled water are presently regulated under Water Reclamation Requirements (WRRs) and Waste Discharge Requirements (WDRs) Order Nos. R4-2003-0025 (Harbor Water Recycling Project (HWRP) for nonpotable applications) and R4-2003-0134 (HWRP for injection at Dominguez Gap Barrier), adopted by this Board on January 30, 2003 and October 2, 2003, respectively. The HWRP programs are being undertaken by the City to comply with Regional Board Resolution No. 94-009 to ultimately phase out discharge of wastewater into the Los Angeles Harbor. However, unreclaimed tertiary-treated effluent may be

²⁵ ~~Based on MRP CI-2171 specified in Order No. R4-2005-0024, if either the red abalone (*Haliotis rufescens*) or the giant kelp (*Macrocystis pyrifera*) is chosen as one of final test species, then 60% effluent is allowed to be used, because they cannot survive in 100% effluent. The freshwater whole effluent sample shall be diluted by hypersaline brine (prepared from natural seawater, in accordance with the test methods manual) prior to conducting the marine chronic toxicity test, a hypersaline brine control shall also be used. However, the Discharge shall request for a new percentage effluent, if the screening or re-screening tests using other non-vertebrate show the different results than the 60% effluent. **The Executive Officer can approve the request.**~~

²⁶ Chronic toxicity is granted with the dilution credits of 61, which is consistent with Section 1.4.2 of SIP. It is because the chronic toxicity in the receiving water was no greater than the water criteria objective of 1 TUc in 2009 and the first quarter of 2010. The same rationale was used for ammonia, MBAS, and copper.

discharged occasionally to the Harbor due to fluctuations in demand for water reuse.

2. Future Reclaimed Project – The City currently recycles 6.75 mgd of tertiary effluent for delivery of 5 mgd (Phase I) of product water to LADWP's Harbor Generating Station and the Barrier, and will achieve the ultimate goal of totally reusing 22.5 mgd (Phase III) of product water by the year 2020.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in Los Angeles Outer Harbor:

1. Bacterial Characteristics

a. Water Contact Standards

In marine water designated for water contact recreation (REC-1). The waste discharged shall not cause the following bacterial standards to be exceeded in the receiving water outside the initial dilution zone.

i. Geometric Mean Limits

- (i). Total coliform density shall not exceed 1,000/100 mL.
- (ii). Fecal coliform density shall not exceed 200/100 mL.
- (iii). Enterococcus density shall not exceed 35/100 mL.

ii. Single Sample Limits

- (i). Total coliform density shall not exceed 10,000/100 mL.
- (ii). Fecal coliform density shall not exceed 400/100 mL.
- (iii). Enterococcus density shall not exceed 104/100 mL.
- (iv). Total coliform density shall not exceed 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

The geometric mean values should be calculated based on a statistically sufficient number of samples (generally not less than 5 samples equally spaced over a 30-day period).

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If any of the singles sample limits are exceeded, the Regional Board may require repeat sampling on a daily basis until the sample falls below the single sample limit in order to determine the persistence of the exceedance.

When repeat sampling is required because of an exceedance of any one single sample limit, values from all samples collected during that 30-day period will be used to calculate the geometric mean.

During a wet-weather event, stormwater runoff will impact inshore and offshore stations. The day of rain (0.1 inch and greater) plus three following days worth of bacteriology data should be excluded from Single Sample and Geometric mean limits.

b. Shellfish Harvesting Standards

At all areas where shellfish may be harvested for human consumption, as determined by the Regional Board, the waste discharged shall not cause the following bacteriological standards to be exceeded:

The median total coliform concentration throughout the water column for any 30-day period shall not exceed 70 per 100 ml, nor ~~shall~~ more than 10 percent of the samples collected during ~~for~~ any 30-day period shall exceed 230 per 100 ml ~~for a five-tube decimal dilution test or 330/100 ml when a three-tube decimal dilution test is used.~~

- c. If a shore station consistently exceeds a total or fecal coliform objective, the Discharger shall conduct a sanitary survey to determine if the discharge is the source of the contamination. The geometric mean shall be a moving average based on no less than five samples, spaced evenly over the time interval. When a sanitary survey identifies a controllable source of indicator organisms associated with the discharge of sewage, the Discharger shall take action to control the source.

2. Physical Characteristics

The waste discharged shall not:

- a. Cause floating particulates and oil and grease to be visible;
- b. Cause aesthetically undesirable discoloration of the ocean surface;
- c. Significantly reduce the transmittance of natural light at any point outside the initial dilution zone; and,
- d. Change the rate of deposition of inert solids and the characteristics of inert solids in ocean sediments such that benthic communities are degraded.

3. Chemical Characteristics

The waste discharged shall not:

- a. Cause the dissolved oxygen concentration at any time to be depressed more than 10 percent from that which occurs naturally;
- b. Change the pH of the receiving waters at any time more than 0.2 units from that which occurs naturally;
- c. Cause the dissolved sulfide concentration of waters in and near sediments to be significantly increased above that present under natural conditions;
- d. Contain individual pesticides or combinations of pesticides in concentrations that adversely affect beneficial uses;
- e. Cause the concentration of organic materials in marine sediments to be increased to levels that would degrade marine life; and,
- f. Contain nutrients at levels that will cause objectionable aquatic growths or degrade indigenous biota.

4. Biological Characteristics

The waste discharged shall not:

- a. Degrade marine communities, including vertebrate, invertebrate, and plant species;
- b. Alter the natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption; and,
- c. Cause the concentration of organic materials in fish, shellfish or other marine resources used for human consumption to bioaccumulate to levels that are harmful to human health.

5. Radioactivity

Discharge of radioactive waste shall not degrade marine life.

6. Acute Toxicity Characteristics

- a. There shall be no acute toxicity in ambient waters as a result of wastes discharged.
- b. Receiving water and effluent toxicity testing shall be performed on the same day as close to concurrently as possible.

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- c. The acute toxicity of the receiving water, at the Stations HW23 and HW33, located upstream—east and downstreamwest, respectively, of the discharge, shall be such that: (i) the average survival in the undiluted receiving water for any three (3) consecutive 96-hour static, static-renewal, or continuous flow bioassay tests shall be at least 90%, and (ii) no single test producing less than 70% survival. Static-renewal bioassay tests may be used, as allowed by the most current USEPA test method for measuring acute toxicity.

7. Chronic Toxicity Characteristics

- a. There shall be no chronic toxicity in ambient waters as a result of wastes discharged.
- b. Receiving water and effluent toxicity testing shall be performed on the same day as close to concurrently as possible.
- c. If the chronic toxicity in the receiving water at the monitoring station(s) near the edge of the chronic mixing zone boundary, which are HW24 and HW43, exceeds a monthly median of 1.0 TU_c in a critical life stage test and the toxicity cannot be attributed to ambient toxicity, as assessed by the Discharger, then the Discharger shall immediately implement an accelerated chronic toxicity testing according to Monitoring and Reporting Program CI 2171, section V.B.3. If two of the six tests exceed an 1.0 TU_c trigger, the Discharger shall initiate a TIE and implement the Initial Investigation TRE Workplan.

~~d.If the chronic toxicity of the receiving water upstream of the discharge is greater than the downstream and the TU_c of the effluent chronic toxicity test is less than or equal to an 62 TU_c trigger, then accelerated monitoring need not be implemented.~~

8. The wastes discharged shall not cause the ammonia water quality objective in the Basin Plan to be exceeded in the receiving waters. Compliance with the ammonia water quality objectives shall be determined by comparing the receiving water ammonia concentration to the ammonia water quality objective in the Basin Plan. The ammonia water quality objective can also be calculated using the pH and temperature of the receiving water at the time of collection of the ammonia sample.

B. Groundwater Limitations

Not applicable.

VI. PROVISIONS

A. Standard Provisions

1. Standard Provisions

The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

2. Regional Board Standard Provisions

The Discharger shall comply with the Regional Board specific Standard Provisions as follows:

- a. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by Section 13050 of the California Water Code.
- b. Odors, vectors, and other nuisances of sewage or sludge origin beyond the limits of the treatment-plant site or the sewage collection system due to improper operation of facilities, as determined by the Regional Board, are prohibited.
- c. All facilities used for collection, transport, treatment, or disposal of "wastes" shall be adequately protected against damage resulting from overflow, washout, or inundation from a storm or flood having a recurrence interval of once in 100 years.
- d. Collection, treatment, and disposal systems shall be operated in a manner that precludes public contact with wastewater.
- e. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer of the Regional Board.
- f. The provisions of this order are severable. If any provision of this order is found invalid, the remainder of this Order shall not be affected.
- g. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the CWA.
- h. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities or penalties to which the discharger is or may be subject to under Section 311 of the CWA.
- i. The Discharger must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies

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- regarding discharges of storm water to storm drain systems or other water courses under their jurisdiction; including applicable requirements in municipal storm water management program developed to comply with NPDES permits issued by the Regional Board to local agencies.
- j. Discharge of wastes to any point other than specifically described in this Order is prohibited, and constitutes a violation thereof.
 - k. The Discharger shall comply with all applicable effluent limitations, national standards of performance, toxic effluent standards, and all federal regulations established pursuant to Sections 301, 302, 303(d), 304, 306, 307, 316, 403, and 405 of the Federal CWA and amendments thereto.
 - l. These requirements do not exempt the operator of the waste disposal facility from compliance with any other laws, regulations, or ordinances which may be applicable; they do not legalize this waste disposal facility, and they leave unaffected any further restraints on the disposal of wastes at this site which may be contained in other statutes or required by other agencies.
 - m. Oil or oily material, chemicals, refuse, or other pollutionable materials shall not be stored or deposited in areas where they may be picked up by rainfall and carried off of the property and/or discharged to surface waters. Any such spill of such materials shall be contained and removed immediately.
 - n. A copy of these waste discharge specifications shall be maintained at the discharge facility so as to be available at all times to operating personnel.
 - o. If there is any storage of hazardous or toxic materials or hydrocarbons at this facility and if the facility is not manned at all times, a 24-hour emergency response telephone number shall be prominently posted where it can easily be read from the outside.
 - p. The Discharger shall file with the Regional Board a Report of Waste Discharge at least 120 days before making any material change or proposed change in the character, location or volume of the discharge.
 - q. In the event of any change in name, ownership, or control of these waste disposal facilities, the discharger shall notify the Regional Board of such change and shall notify the succeeding owner or operator of the existence of this Order by letter, copy of which shall be forwarded to the Regional Board.
 - r. The CWC provides that any person who violates a waste discharge requirement or a provision of the CWC is subject to civil penalties of up to \$5,000 per day, \$10,000 per day, or \$25,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil

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penalties of up to \$10 per gallon per day or \$25 per gallon per day of violation; or some combination thereof, depending on the violation, or upon the combination of violations. Violation of any of the provisions of the NPDES program or of any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalty may be applied for each kind of violation.

- s. Under CWC 13387, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this order, including monitoring reports or reports of compliance or noncompliance, or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained in this order and is subject to a fine of not more than \$25,000 or imprisonment of not more than two years, or both. For a second conviction, such a person shall be punished by a fine of not more than \$25,000 per day of violation, or by imprisonment of not more than four years, or by both.
- t. The discharge of any waste resulting from the combustion of toxic or hazardous wastes to any waste stream that ultimately discharges to waters of the United States is prohibited, unless specifically authorized elsewhere in this permit.
- u. The Discharger shall notify the Executive Officer in writing no later than 6 months prior to planned discharge of any chemical, other than the products previously reported to the Executive Officer, which may be toxic to aquatic life. Such notification shall include:
 - i. Name and general composition of the chemical;
 - ii. Frequency of use;
 - iii. Quantities to be used;
 - iv. Proposed discharge concentrations; and,
 - v. USEPA registration number, if applicable.
- v. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

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- w. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, maximum daily or instantaneous effluent limitation, or receiving water limitation of this Order, the Discharger shall notify the Watershed Regulatory Section Chief at the Regional Board by telephone at (213) 576-6616, or electronically at dhung@waterboards.ca.gov, within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing to the Regional Board within five days, unless the Regional Board waives confirmation.

The written notification shall state the nature, time, duration, and cause of non-compliance, and shall describe the measures being taken to remedy the current noncompliance, and the measures to prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

- x. Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Board, Division of Water Rights, and receive approval for such a change. (Wat. Code § 1211.)

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

- a. This Order may be modified, revoked and reissued, or terminated for cause, including, but not limited to:
- a. Violation of any term or condition contained in this Order;
 - b. Obtaining this Order by misrepresentation, or by failure to disclose fully all relevant facts; and,
 - c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the Discharger for an Order modification, revocation, and issuance or termination, or a notification of planned changes or anticipated noncompliances does not stay any condition of this Order.

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- b. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.
- c. This Order may be modified, in accordance with the provisions set forth in 40 CFR, Parts 122.62 and 124.5(c)(2) to include requirements for the implementation of the watershed protection management approach.
- d. The Board may modify, or revoke and reissue this Order if present or future investigations demonstrate that the discharge(s) governed by this Order will cause, have the potential to cause, or will contribute to adverse impacts on water quality and/or beneficial uses of the receiving waters.
- e. This Order may also be modified, revoked, and reissued or terminated in accordance with the provisions of 40 CFR, Parts 122.44, 122.62 to 122.64, 125.62, and 125.64. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order, endangerment to human health or the environment resulting from the permitted activity, or acquisition of newly obtained information which would have justified the application of different conditions if known at the time of Order adoption. The filing of a request by the District for an Order modification, revocation and issuance or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.
- f. This Order may be modified, in accordance with the provisions set forth in 40 CFR, Parts 122.62 and ~~to~~ 124.5(c)(2), and Section 2.4.3 of the SIP, to include new MLs.
- g. This Order may be reopened and modified in accordance with the provisions set forth in 40 CFR Parts 122.44(b)(1), 122.44(d)(1)(vi)(C)(4), 122.62 and 124.5(c)(2), to revise effluent limitations as a result of future Basin Plan Amendments, such as an update of a water quality objective, the adoption of a site specific objective, or the adoption of a TMDL for the San Gabriel River Watershed Dominguez Channel – Los Angeles/Long Beach Watershed Management Area.
- h. This Order may be reopened and modified in accordance with the provisions set forth in 40 CFR Parts 122.44(b)(1), 122.44(d)(1)(vi)(C)(4), 122.62 and 124.5(c)(2), to revise effluent limitations as a result of the delisting of a pollutant from the 303(d) list.
- i. This Order may be reopened and modified in accordance with the provisions set forth in 40 CFR Parts 122.44(b)(1), 122.44(d)(1)(vi)(C)(4),

122.62 and 124.5(c)(2) to revise the chronic toxicity effluent limitation, to the extent necessary, to be consistent with State Board precedential decisions, new policies, new laws, or new regulations.

- j. This Order may be reopened in accordance with the provisions set forth in 40 CFR Parts 122.44(b)(1), 122.44(d)(1)(vi)(C)(4), 122.62 and 124.5(c)(2) to modify final effluent limitations, if at the conclusion of necessary studies conducted by the Discharger, the Regional Board determines that dilution credits, attenuation factors, water effects ratio, site specific objectives, or metal translators are warranted. If EPA approves site-specific objectives for ammonia in downstream receiving water locations, this Order may be reopened to consider the site-specific objectives.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Special Study – Constituents of Emerging Concern in the Effluent

The paucity of information on the occurrence and possible effects of constituents of emerging concern (CECs) on ecosystems from treated municipal wastewater currently limits our ability to define and thus manage risks associated with CECs. Therefore, a need for a more holistic understanding of the effects of CECs on human health and aquatic life is being developed. The monitoring of CECs in POTW discharge is the first vital step in collecting information on the occurrence of the CECs in effluent. The City shall submit a Work Plan within 6 months of the effective date of this Order, subject to the approval of the Executive Officer, to conduct a CEC Special Study. This Work Plan must address the following:

- i. CECs to Monitor – The City shall monitor the following chemicals specified in Table 8 at the EFF-001 containing tertiary-treated wastewater and brine waste.

Table 8 – CECs in the Effluent

Parameter	Units	Sample Type	Minimum Sampling Frequency
17 α -Ethinyl Estradiol	$\mu\text{g/L}$	24-hour composite	<u>annually</u> ²⁷
17 β -Estradiol	$\mu\text{g/L}$	24-hour composite	<u>annually</u> ^{26,27}
Estrone	$\mu\text{g/L}$	24-hour composite	<u>annually</u> ^{26,27}
<u>Cortisol</u>	<u>$\mu\text{g/L}$</u>	<u>24-hour composite</u>	<u>annually</u> ²⁶
<u>11-Ketotestosterone</u>	<u>$\mu\text{g/L}$</u>	<u>24-hour composite</u>	<u>annually</u> ²⁶

²⁷ These chemicals need to be monitored during the time period from July 1 to September 30 every other year starting in 2011. Monitoring shall occur in the first half of the calendar year so that the results can be presented in the first biannual report.

Parameter	Units	Sample Type	Minimum Sampling Frequency
Endocrine disruptors ²⁸	µg/L	24-hour composite	annually ²⁶²⁷
Pharmaceuticals ²⁹	µg/L	24-hour composite	annually ²⁶²⁷
Personal Care Products ³⁰	µg/L	24-hour composite	annually ²⁶²⁷
Other Chemicals ³¹	µg/L	24-hour composite	annually ²⁶²⁷
Emerging chemicals ³²	µg/L	<u>Grab or</u> 24-hour composite	annually ²⁶²⁷

- ii. Analytical Methodology – The City shall use methodologies listed in USEPA Methods 1694 ~~and or~~ 1698, methodologies approved by the California Department of Public Health, methodologies approved by the State Board, or methodologies approved by the Executive Officer.
- iii. Reports – The City shall submit the progress annual reports to this Regional Board by December 31, 2011, ~~2012, and~~ 2013, and 2015a final report to this Regional Board ~~by December 31, 2014~~.

b. Toxicity Reduction Requirements

The Discharger shall prepare and submit a copy of the Discharger's initial investigation Toxicity Reduction Evaluation (TRE) workplan to the Executive Officer of the Regional Board for approval within 90 days of the effective date of this permit. If the Executive Officer does not disapprove the workplan within 60 days from the date in which it was received, the workplan shall become effective. The Discharger shall use USEPA manual EPA/833B-99/002 (municipal) as guidance, or most current version. At a minimum, the initial investigation TRE workplan must contain the provisions in Attachment G. This workplan shall describe the steps the Discharger intends to follow if toxicity is detected, and should include, at a minimum:

²⁸ Endocrine disruptors include bisphenol A, nonylphenol and nonylphenol polyethoxylates, octylphenol ~~and octylphenol polyethoxylates~~, and polybrominated diphenyl ethers, or surrogates that could represent one or more endocrine disruptors.

²⁹ Pharmaceuticals include acetaminophen, amoxicillin, azithromycin, carbamazepine, ciprofloxacin, dilantin, gemfibrozil, ibuprofen, lipitor, sulfamethoxazole, trimethoprim, and salicylic acid, or surrogates that could represent one or more pharmaceuticals.

³⁰ Personal care products include triclosan and DEET, or surrogates that could represent one or more personal care products.

³¹ Other chemicals include caffeine, iodinated contrast media (i.e. ~~iohexal and~~ iopromide), fire retardants such as TCEP, or surrogates that could represent one or more chemicals that suggest the presence of wastewater.

³² ~~The City shall monitor additional emerging chemicals upon request by~~ Given the evolving state of research, science, and policy in the area of CECs, the Executive Officer can add or remove emerging chemicals including CECs from the monitoring program.

- i. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
- ii. A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the facility; and,
- iii. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).

If the effluent toxicity test result exceeds the limitation specified in Section IV.A.2.d.i and/or Section IV.A.2.e.iv, then the Discharger shall immediately implement accelerated toxicity testing that consists of six additional tests (see section VI of MRP), approximately every two weeks, over a 12-week period. Effluent sampling for the first test of the six additional tests shall commence within 5 business days of receipt of the test results exceeding the toxicity limitation.

If the results of any two of the six tests (any two tests in a 12-week period) exceed the limitation, the Discharger shall initiate a Toxicity Reduction Evaluation (TRE).

If results of the implementation of the facility's initial investigation TRE workplan (as described above) indicate the need to continue the TRE/TIE, the Discharger shall expeditiously develop a more detailed TRE workplan for submittal to the Executive Officer within 15 days of completion of the initial investigation TRE.

Detailed toxicity testing and reporting requirements are contained in Section V of the MRP, (Attachment E).

c. Treatment Plant Capacity

The Discharger shall submit a written report to the Executive Officer of the Regional Board within 90 days after the "30-day (monthly) average" daily dry-weather flow equals or exceeds 75 percent of the design capacity of waste treatment and/or disposal facilities. The Discharger's senior administrative officer shall sign a letter, which transmits that report and certifies that the discharger's policy-making body is adequately informed of the report's contents. The report shall include the following:

- i. The average daily flow for the month, the date on which the peak flow occurred, the rate of that peak flow, and the total flow for the day;

- ii. The best estimate of when the monthly average daily dry-weather flow rate will equal or exceed the design capacity of the facilities; and,
- iii. A schedule for studies, design, and other steps needed to provide additional capacity for waste treatment and/or disposal facilities before the waste flow rate equals the capacity of present units.

This requirement is applicable to those facilities which have not reached 75 percent of capacity as of the effective date of this Order. For those facilities that have reached 75 percent of capacity by that date but for which no such report has been previously submitted, such report shall be filed within 90 days of the issuance of this Order.

d. Ammonia Receiving Water Monitoring Requirements

The Discharger shall delineate the salinity, pH, temperature, and ammonia of the ambient receiving water conditions for stations specified in Section VIII.A.1. of the MRP.

3. Best Management Practices and Pollution Prevention

- a. Storm Water Pollution Prevention Plan (SWPPP) – Not Applicable**
- b. Spill Contingency Plan (SCP)**

Within ninety days of the effective date of this Order, the Discharger is required to submit a Spill Clean-up Contingency Plan, which describes the activities and protocols, to address clean-up of spills, overflows, and bypasses of untreated or partially treated wastewater from the Discharger's collection system or treatment facilities, that reach water bodies, including dry channels and beach sands. At a minimum, the Plan shall include sections on spill clean-up and containment measures, public notification, and monitoring. The Discharger shall review and amend the Plan as appropriate after each spill from the facility or in the service area of the facility. The Discharger shall include a discussion in the annual summary report of any modifications to the Plan and the application of the Plan to all spills during the year.

c. Pollutant Minimization Program

Reporting protocols in the Monitoring and Reporting Program, Attachment E, Section X.B.4 describe sample results that are to be reported as Detected but Not Quantified (DNQ) or Not Detected (ND). Definitions for DNQ, ND, a Reported Minimum Level (RML), Reporting Level (RL), and Method Detection Limit (MDL) are provided in Attachment A. These reporting protocols and definitions are used in determining the need to conduct a Pollution Minimization Program (PMP) as follows:

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The Discharger shall develop a Pollutant Minimization Program (PMP) as further described below when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

- i. The concentration of the pollutant is reported as DNQ and the effluent limitation is less than the ~~reported MLRL~~; or,
- ii. The concentration of the pollutant is reported as ND and the effluent limitation is less than the MDL.

The goal of the PMP shall be to reduce all potential sources of a pollutant through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Board may consider cost-effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to CWC Section 13263.3(d), shall be considered to fulfill the PMP requirements.

The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Board:

- i. An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;
- ii. Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;
- iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;
- iv. Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and,
- v. An annual status report that shall be sent to the Regional Board including:
 - (i). All PMP monitoring results for the previous year;
 - (ii). A list of potential sources of the reportable priority pollutant(s);

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(iii). A summary of all actions undertaken pursuant to the control strategy; and,

(iv). A description of actions to be taken in the following year.

4. Construction, Operation and Maintenance Specifications

- a. Wastewater treatment facilities subject to this Order shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Chapter 3, Subchapter 14, Title 23 of the California Code of Regulations (Section 13625 of the California Water Code).
- b. The Discharger shall maintain in good working order a sufficient alternate power source for operating the wastewater treatment and disposal facilities. All equipment shall be located to minimize failure due to moisture, liquid spray, flooding, and other physical phenomena. The alternate power source shall be designed to permit inspection and maintenance and shall provide for periodic testing. If such alternate power source is not in existence, the discharger shall halt, reduce, or otherwise control all discharges upon the reduction, loss, or failure of the primary source of power.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Sludge Disposal Requirements

- i. All sludge generated at the wastewater treatment plant will be disposed of, treat, or applied to land in accordance with Federal Regulations 40 CFR Part 503. These requirements are enforceable by USEPA.
- ii. The Discharger shall ensure compliance with the requirements in SWRCB Order No. 2004-10-DWQ, General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural and Land Reclamation Activities” for those sites receiving the Discharger’s biosolids which a Regional Water Quality Control Board has placed under this general order, and with the requirements in individual Waste Discharge Requirements (WDRs) issued by a Regional Board for sites receiving the Discharger’s biosolids.
- iii. The Discharger shall comply, if applicable, with WDRs issued by other Regional Boards to which jurisdiction the biosolids are transported and applied.

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- iv. The Discharger shall furnish this Regional Board with a copy of any report submitted to USEPA, State Board or other Regional Board, with respect to municipal sludge or biosolids.

b. Pretreatment Requirements

- i. This Order includes the Discharger's Pretreatment Program as previously submitted to this Regional Board. Any change to the Program shall be reported to the Regional Board in writing and shall not become effective until approved by the Executive Officer in accordance with procedures established in 40 CFR, 403.18.
- ii. The Discharger shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d), and 402(b) of the Federal Clean Water Act with timely, appropriate, and effective enforcement actions. The Discharger shall require industrial users to comply with Federal Categorical Standards and shall initiate enforcement actions against those users who do not comply with the standards. The Discharger shall require industrial users subject to the Federal Categorical Standards to achieve compliance no later than the date specified in those requirements or, in the case of a new industrial user, upon commencement of the discharge.
- iii. The Discharger shall perform the pretreatment functions as required in Federal Regulations 40 CFR, Part 403 including, but not limited to:
 - (i). Implement the necessary legal authorities as provided in 40 CFR 403.8(f)(1);
 - (ii). Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6;
 - (iii). Implement the programmatic functions as provided in 40 CFR 403.8(f)(2); and,
 - (iv). Provide the requisite funding of personnel to implement the Pretreatment Program as provided in 40 CFR 403.8(f)(3).
- iv. The Discharger shall submit semiannual and annual reports to the Regional Board, with copies to the State Board, and USEPA Region 9, describing the Discharger's pretreatment activities over the period. The annual and semiannual reports shall contain, but not be limited to, the information required in the attached *Pretreatment Reporting Requirements* (Attachment J), or an approved revised version thereof. If the Discharger is not in compliance with any conditions or requirements of this Order, the Discharger shall include the reasons for noncompliance and shall state how and when the Discharger will comply with such conditions and requirements.

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- v. The Discharger shall be responsible and liable for the performance of all control authority pretreatment requirements contained in 40 CFR, Part 403, including subsequent regulatory revisions thereof. Where Part 403 or subsequent revision places mandatory actions upon the Discharger as Control Authority but does not specify a timetable for completion of the actions, the Discharger shall complete the required actions within six months from the effective date of this Order or the effective date of Part 403 revisions, whichever comes later. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines, and other remedies by the Regional Board, USEPA, or other appropriate parties, as provided in the Federal Clean Water Act. The Regional Board or USEPA may initiate enforcement action against an industrial user for noncompliance with acceptable standards and requirements as provided in the Federal Clean Water Act and/or the California Water Code.
- c. The Discharger's collection system is part of the system that is subject to this Order. As such, the Discharger must properly operate and maintain its collection system (40 C.F.R. § 122.41(e)). The Discharger must report any non-compliance (40 C.F.R. § 122.41(l)(6) and (7)) and mitigate any discharge from the collection system in violation of this Order (40 C.F.R. § 122.41(d)). See the Order at Attachment D, subsections I.D, V.E, V.H, and I.C.

6. Spill Reporting Requirements

- a. **Notification** – Although State and Regional Board staff do not have duties as first responders, this requirement is an appropriate mechanism to ensure that the agencies that do have first responder duties are notified in a timely manner in order to protect public health and beneficial uses. For certain spills, overflows and bypasses, the Discharger shall make notifications as required below:
 - i.. In accordance with the requirements of Health and Safety Code section 5411.5, the discharger shall provide notification to the local health officer or the director of environmental health with jurisdiction over the affected water body of any unauthorized release of sewage or other waste that causes, or probably will cause, a discharge to any waters of the state.
 - ii. In accordance with the requirements of Water Code section 13271, the discharger shall provide notification to the California Emergency Management Agency (Cal EMA) of the release of reportable amounts of hazardous substances or sewage that causes, or probably will cause, a discharge to any waters of the state. The California Code of Regulations, Title 23, section 2250, defines a reportable amount of

sewage as being 1,000 gallons. The phone number for reporting these releases to the Cal EMA is (800) 852-7550.

- iii. The discharger shall notify the Regional Water Quality Control Board of any unauthorized release of sewage from its wastewater treatment plant that causes, or probably will cause, a discharge to a water of the state as soon as possible, but not later than **two (2)** hours after becoming aware of the release. This notification does not need to be made if the discharger has notified the Cal EMA. The phone number for reporting these releases of sewage to the Regional Water Quality Control Board is (213) 576-6657. At a minimum, the following information shall be provided:
 - (i). The location, date, and time of the release.
 - (ii). The water body that received or will receive the discharge.
 - (iii). An estimate of the amount of sewage or other waste released and the amount that reached a surface water at the time of notification.
 - (iv). If ongoing, the estimated flow rate of the release at the time of the notification.
 - (v). The name, organization, phone number and email address of the reporting representative.
- b. **Monitoring** – For certain spills, overflows and bypasses, the Discharger shall monitor as required below:
 - i. To define the geographical extent of spill's impact the Discharger shall obtain grab samples for spills, overflows or bypasses of any volume that reach receiving waters. The Discharger shall analyze the samples for total and fecal coliforms or E. coli, and enterococcus, and relevant pollutants of concern, upstream and downstream of the point of entry of the spill (if feasible, accessible and safe). This monitoring shall be done on a daily basis from time the spill is known until the results of two consecutive sets of bacteriological monitoring indicate the return to the background level or the County Department of Health Services authorizes cessation of monitoring.
 - ii. The Discharger shall obtain a grab sample for spills, overflows or bypasses of any volume that flowed to receiving waters or entered a shallow ground water aquifer, and all spills, overflows and bypasses of 1,000 gallons or more. The Discharger shall analyze the sample for total and fecal coliforms or E. coli, and enterococcus, and relevant pollutants of concern depending on the area and nature of spills or overflows if feasible, accessible and safe.

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- c. **Reporting** – The Regional Board initial notification under Section VI.C.6.a.iii shall be followed by:
- i. As soon as possible, but **not later than twenty four (24) hours** after becoming aware of an unauthorized discharge of sewage or other waste from its wastewater treatment plant to a water of the state, the discharger shall submit a statement to the Regional Water Quality Control Board by email at aanijielo@waterboards.ca.gov . If the discharge is 1,000 gallons or more, this statement shall certify that the Cal EMA has been notified of the discharge in accordance with Water Code section 13271. The statement shall also certify that the local health officer or director of environmental health with jurisdiction over the affected water bodies has been notified of the discharge in accordance with Health and Safety Code section 5411.5. The statement shall also include at a minimum the following information:
- (i). Agency, NPDES No., Order No., and MRP CI No., if applicable.
 - (ii). The location, date, and time of the discharge.
 - (iii). The water body that received the discharge.
 - (iv). A description of the level of treatment of the sewage or other waste discharged.
 - (v). An initial estimate of the amount of sewage or other waste released and the amount that reached a surface water.
 - (vi). The Cal EMA control number and the date and time that notification of the incident was provided to the Cal EMA.
 - (vii). The name of the local health officer or director of environmental health representative notified (if contacted directly); the date and time of notification; and the method of notification (e.g., phone, fax, email).
- ii. A written preliminary report within five working days after disclosure of the incident (submission to the Regional Board of the California Integrated Water Quality System (CIWQS) Sanitary Sewer Overflow (SSO) event number shall satisfy this requirement). Within 30 days after submitting the preliminary report, the Discharger shall submit the final written report to this Regional Board. (A copy of the final written report, for a given incident, already submitted pursuant to a Statewide General Waste Discharge Requirements for Wastewater Collection System Agencies, may be submitted to the Regional Board to satisfy this requirement.) The written report shall document the information required in paragraph D. below, monitoring results and any other information required in provisions of the Standard Provisions document including corrective measures implemented or

proposed to be implemented to prevent/minimize future occurrences. The Executive Officer for just cause can grant an extension for submittal of the final written report.

- iii. The Discharger shall include a certification in the annual summary report (due according to the schedule in the Monitoring and Reporting Program) that states—the sewer system emergency equipment, including alarm systems, backup pumps, standby power generators, and other critical emergency pump station components were maintained and tested in accordance with the Discharger's Preventative Maintenance Plan. Any deviations from or modifications to the Plan shall be discussed.
- d. **Records** – The Discharger shall develop and maintain a record of all spills, overflows or bypasses of raw or partially treated sewage from its collection system or treatment plant. This record shall be made available to the Regional Board upon request and a spill summary shall be included in the annual summary report. The records shall contain:
 - i. the date and time of each spill, overflow or bypass;
 - ii. the location of each spill, overflow or bypass;
 - iii. the estimated volume of each spill, overflow or bypass including gross volume, amount recovered and amount not recovered, monitoring results;
 - iv. the cause of each spill, overflow or bypass;
 - v. whether each spill, overflow or bypass entered a receiving water and, if so, the name of the water body and whether it entered via storm drains or other man-made conveyances;
 - vi. mitigation measures implemented; and,
 - vii. corrective measures implemented or proposed to be implemented to prevent/minimize future occurrences.
- e. **Activities Coordination** – In addition, Regional Board expects that the POTW's owners/operators will coordinate their compliance activities for consistency and efficiency with other entities that have responsibilities to implement: (i) this NPDES permit, including the Pretreatment Program, (ii) a MS4 NPDES permit that may contain spill prevention, sewer maintenance, reporting requirements and (iii) the SSO WDR.
- f. **Consistency with Sanitary Sewer Overflows WDRs** – The Clean Water Act prohibits the discharge of pollutants from point sources to surface waters of the United States unless authorized under an NPDES permit. (33 U.S.C. §§1311, 1342). The State Board adopted General Waste

Discharge Requirements (WDRs) for Sanitary Sewer Systems, (WQ Order No. 2006-0003) on May 2, 2006, to provide a consistent, statewide regulatory approach to address Sanitary Sewer Overflows (SSOs). The SSOs WDR requires public agencies that own or operate sanitary sewer systems to develop and implement sewer system management plans and report all SSOs to the State Board's online SSOs database.

The requirements contained in this Order in Sections VI.C.3.b. (Spill Contingency Plan Section), VI.C.4. (Construction, Operation and Maintenance Specifications Section), and VI.C.6. (Spill Reporting Requirements) are intended to be consistent with the requirements of the SSOs WDR. The Regional Board recognizes that there may be some overlap between the NPDES permit provisions and SSOs WDR requirements. The requirements of the SSOs WDR are considered the minimum thresholds (see Finding 11 of WQ Order No. 2006-0003). The Regional Board will accept the documentation prepared by the Permittees under the SSOs WDR for compliance purposes, as satisfying the requirements in Sections VI.C.3.b., VI.C.4., and VI.C.6. provided any more specific or stringent provisions enumerated in this Order, have also been addressed.

- g. **Emergency Power Facilities** – The Discharger shall provide standby or emergency power facilities and/or storage capacity or other means so that in the event of plant upset or outage due to power failure or other cause, discharge of raw or inadequately treated sewage does not occur.

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below:

A. General.

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. Multiple Sample Data Reduction.

When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

C. Average Monthly Effluent Limitation (AMEL).

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger may be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger may be considered out of compliance for that calendar month. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month with respect to the AMEL.

If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, does not exceed the AMEL for a given parameter, the Discharger will have demonstrated compliance with the AMEL for each day of that month for that parameter.

If the analytical result of any single sample, monitored monthly, quarterly, semiannually, or annually, exceeds the AMEL for any parameter, the Discharger shall collect up to four additional samples within the same calendar month. All analytical results shall be reported in the monitoring report for that month. Less than four samples may be collected if compliance with the AMEL has been demonstrated based on the monitoring results. The concentration of pollutant (an arithmetic mean or a median) in these samples estimated from the "Multiple Sample Data Reduction" Section above, will be used for compliance determination.

In the event of noncompliance with an AMEL, the sampling frequency for that parameter shall be increased to weekly and shall continue at this level until compliance with the AMEL has been demonstrated.

D. Average Weekly Effluent Limitation (AWEL).

If the average of daily discharges over a calendar week exceeds the AWEL for a given parameter, an alleged violation will be flagged and the discharger will be considered out of compliance for each day of that week for that parameter, resulting

in 7 days of non-compliance. The average of daily discharges over the calendar week that exceeds the AWEL for a parameter will be considered out of compliance for that week only. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the discharger will be considered out of compliance for that calendar week. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week with respect to the AWEL.

A calendar week will begin on Sunday and end on Saturday. Partial weeks consisting of four or more days at the end of any month will include the remaining days of the week, which occur in the following month in order to calculate a consecutive seven-day average. This value will be reported as a weekly average or seven-day average on the SMR for the month containing the partial week of four or more days. Partial calendar weeks consisting of less than four days at the end of any month will be carried forward to the succeeding month and reported as a weekly average or a seven-day average for the calendar week that ends with the first Saturday of that month.

E. Maximum Daily Effluent Limitation (MDEL).

If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day with respect to the MDEL.

F. Instantaneous Minimum Effluent Limitation.

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, a violation will be flagged and the discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

G. Instantaneous Maximum Effluent Limitation.

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, a violation will be flagged and the discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

H. Six-month Median Effluent Limitation.

If the median of daily discharges over any 180-day period exceeds the six-month median effluent limitation for a given parameter, an alleged violation will be flagged and the discharger will be considered out of compliance for each day of that 180-day period for that parameter. The next assessment of compliance will occur after the next sample is taken. If only a single sample is taken during a given 180-day period and the analytical result for that sample exceeds the six-month median, the discharger will be considered out of compliance for the 180-day period. For any 180-period during which no sample is taken, no compliance determination can be made for the six-month median effluent limitation.

I. Percent Removal.

The average monthly percent removal is the removal efficiency expressed in percentage across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of pollutant concentrations (C in mg/L) of influent and effluent samples collected at about the same time using the following equation:

$$\text{Percent Removal (\%)} = [1 - (C_{\text{Effluent}}/C_{\text{Influent}})] \times 100 \%$$

When preferred, the Discharger may substitute mass loadings and mass emissions for the concentrations.

J. Mass and Concentration Limitations

Compliance with mass and concentration effluent limitations for the same parameter shall be determined separately with their respective limitations. When the concentration of a constituent in an effluent sample is determined to be ND or DNQ, the corresponding mass emission rate determined from that sample concentration shall also be reported as ND or DNQ.

K. Compliance with Single Constituent Effluent Limitations

Dischargers may be considered out of compliance with the effluent limitation if the concentration of the pollutant (see Section B “Multiple Sample Data Reduction” above) in the monitoring sample is greater than the effluent limitation and greater than or equal to the Reporting Level (RL).

L. Compliance with Effluent Limitations Expressed as a Sum of Several Constituents

Dischargers may be considered out of compliance with an effluent limitation which applies to the sum of a group of chemicals (e.g., PCB’s) if the sum of the individual pollutant concentrations is greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero if the constituent is reported as ND or DNQ.

M. Mass Emission Rate.

The mass emission rate shall be obtained from the following calculation for any calendar day:

$$\text{Mass emission rate (lb/day)} = \frac{8.34}{N} \sum_{i=1}^N Q_i C_i$$

$$\text{Mass emission rate (kg/day)} = \frac{3.79}{N} \sum_{i=1}^N Q_i C_i$$

in which 'N' is the number of samples analyzed in any calendar day. 'Q_i' and 'C_i' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' grab samples, which may be taken in any calendar day. If a composite sample is taken, 'C_i' is the concentration measured in the composite sample and 'Q_i' is the average flow rate occurring during the period over which samples are composited.

The daily concentration of all constituents shall be determined from the flow-weighted average of the same constituents in the combined waste streams as follows:

$$\text{Daily concentration} = \frac{1}{Q_t} \sum_{i=1}^N Q_i C_i$$

in which 'N' is the number of component waste streams. 'Q_i' and 'C_i' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' waste streams. 'Q_t' is the total flow rate of the combined waste streams.

N. Bacterial Standards and Analysis.

1. The geometric mean used for determining compliance with bacterial standards is calculated with the following equation:

$$\text{Geometric Mean} = (C_1 \times C_2 \times \dots \times C_n)^{1/n}$$

where n is the number of days samples were collected during the period and C is the concentration of bacteria (MPN/100 mL or CFU/100 mL) found on each day of sampling.

2. For bacterial analyses, sample dilutions should be performed so the expected range of values is bracketed (for example, with multiple tube fermentation method or membrane filtration method, 2 to 16,000 per 100 ml for total and fecal coliform, at a minimum, and 1 to 1000 per 100 ml for enterococcus). The detection methods used for each analysis shall be reported with the results of the analyses.

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3. Detection methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR 136 (revised March 12, 2007), unless alternate methods have been approved by USEPA pursuant to 40 CFR 136, or improved methods have been determined by the Executive Officer and/or USEPA.
4. Detection methods used for enterococcus and E. coli shall be those presented in the USEPA publication EPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water By Membrane Filter Procedure* or any improved method determined by the Executive Officer and/or USEPA to be appropriate.

O. Single Operational Upset

A single operational upset (SOU) that leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation and limits the Discharger's liability in accordance with the following conditions:

1. A single operational upset is broadly defined as a single unusual event that temporarily disrupts the usually satisfactory operation of a system in such a way that it results in violation of multiple pollutant parameters.
2. A Discharger may assert SOU to limit liability only for those violations which the Discharger submitted notice of the upset as required in Provision V.E.2(b) of Attachment D – Standard Provisions.
3. For purpose outside of CWC Section 13385 (h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the requirements for Dischargers to assert the SOU limitation of liability, and the manner of counting violations) shall be in accordance with USEPA Memorandum "Issuance of Guidance Interpreting Single Operational Upset" (September 27, 1989).
4. For purpose of CWC Section 13385 (h) and (i), determination of compliance and civil liability (including any more specific definition of SOU, the requirements for Dischargers to assert the SOU limitation of liability, and the manner of counting violations) shall be in accordance with CWC Section 13385 (f)(2).

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ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ), also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL): the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL): the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Bioaccumulative pollutants are those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV) is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

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Detected, but Not Quantified (DNQ) are those sample results less than the [Reporting Limit \(RL\)](#), but greater than or equal to the laboratory's [Method Detect Limit \(MDL\)](#).

Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA) is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in USEPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration is the estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the [Minimum Level \(ML\)](#) value.

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters are all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation: the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

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Maximum Daily Effluent Limitation (MDEL) means the highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median is the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the $n/2$ and $n/2+1$).

Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML) is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND) are those sample results less than the laboratory's MDL.

Ocean Waters are the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Board's California Ocean Plan.

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

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Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Board.

Reporting Level (RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Satellite Collection System is the portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

~~Sources of Drinking Water is are any water designated as municipal or domestic supply (MUN) in a Regional Board Basin Plan.~~

Standard Deviation (σ) is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

n is the number of samples.

Toxicity Identification Evaluation (TIE) is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

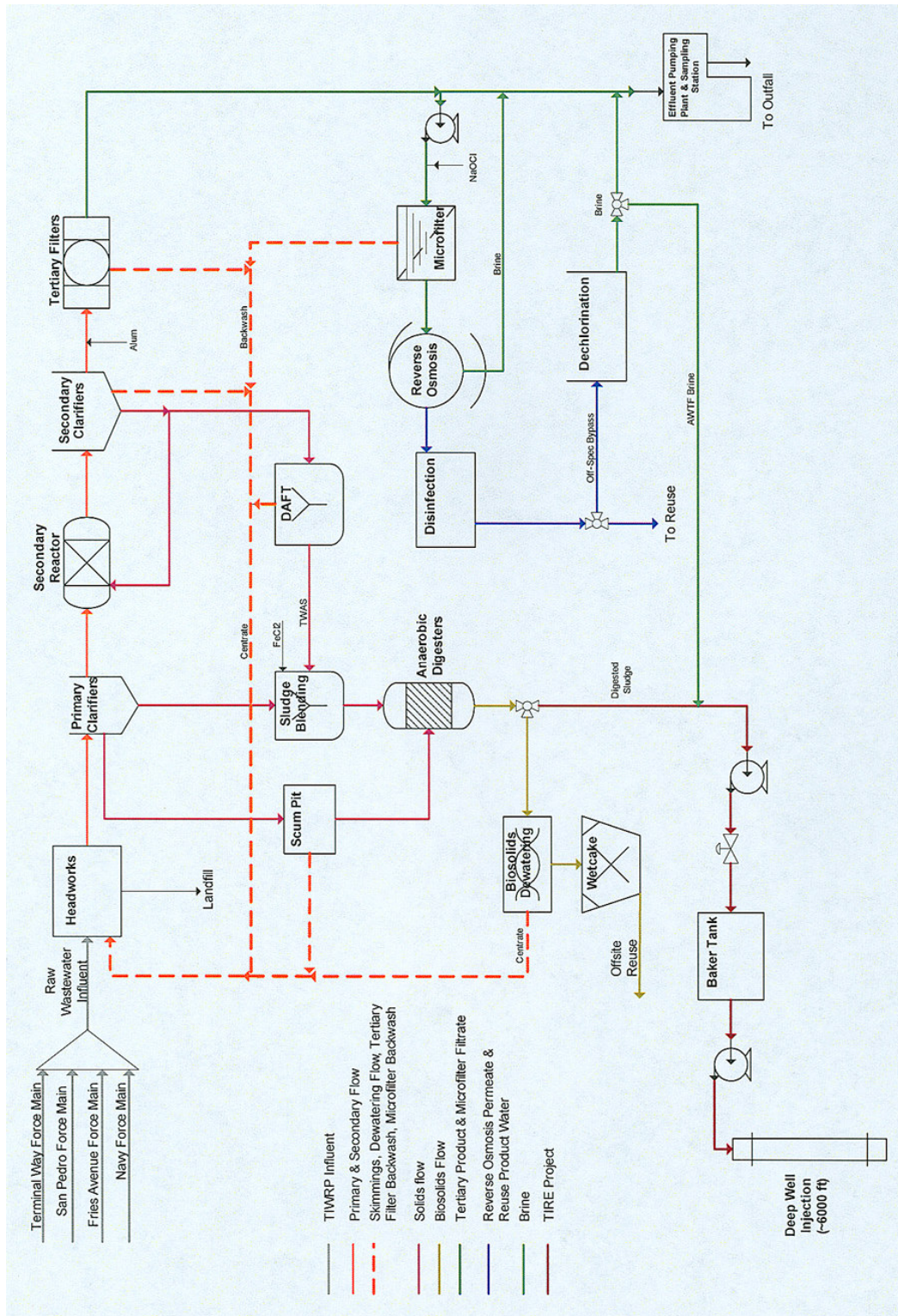
Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. ~~(A TIE is a set of procedures to identify the specific chemical(s)~~

~~responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)~~

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ATTACHMENT B1 – FLOW SCHEMATIC



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ATTACHMENT C – MAP



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ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

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2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Regional Board, State Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 C.F.R. § 122.41(i); Wat. Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 C.F.R. § 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. § 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. § 122.41(i)(3)); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 C.F.R. § 122.41(i)(4).)

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)

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3. Prohibition of bypass. Bypass is prohibited, and the Regional Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and,
 - c. The Discharger submitted notice to the Regional Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
4. The Regional Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)
5. Notice
 - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)
 - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for

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noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and,
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Regional Board. The Regional Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other

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requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)
- B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

- A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)
- B. **Records of monitoring information shall include:**
 - 1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
 - 2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
 - 3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
 - 4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
 - 5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and,
 - 6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)
- C. **Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):**

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1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and,
2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Board, State Board, or USEPA within a reasonable time, any information which the Regional Board, State Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Board, State Board, or USEPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Board, State Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 C.F.R. § 122.22(a)(3).)
3. All reports required by this Order and other information requested by the Regional Board, State Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named

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individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and,

- c. The written authorization is submitted to the Regional Board and State Board. (40 C.F.R. § 122.22(b)(3).)
4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Board and State Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)
5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.22(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Board or State Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Board. (40 C.F.R. § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

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D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
3. The Regional Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Regional Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)

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3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. § 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Board or State Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Board, State Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

- A.** The Regional Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the Regional Board of the following (40 C.F.R. § 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. § 122.42(b)(1)); and

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2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 C.F.R. § 122.42(b)(2).)
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. § 122.42(b)(3).)

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP), CI-2171

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

- A. All samples shall be representative of the waste discharge under conditions of peak load. Quarterly analyses and sampling shall be performed during the 1st quarter (January, February, and March), the 2nd quarter (April, May, and June), the 3rd quarter (July, August, and September), and the 4th quarter (October, November, and December). Semiannual analyses and sampling shall be performed during the 1st quarter (January, February, and March) and the 3rd quarter (July, August, and September). Annual analyses and sampling shall be performed during the 3rd quarter (July, August, and September). Should there be instances when monitoring could not be done during these specified months, the Discharger must notify the Regional Board, state the reason why monitoring could not be conducted, and obtain approval from the Executive Officer for an alternate schedule. Results of quarterly, semiannual, and annual analyses shall be reported ~~in the monthly monitoring report following the analysis~~ as due date specified in Table 5 of MRP.
- a. Pollutants shall be analyzed using the analytical methods described in 40 CFR, Part 136.3, 136.4, and 136.5 (revised March 12, 2007); or where no methods are specified for a given pollutant, by methods approved by this Regional Board or the State Board. Laboratories analyzing effluent samples and receiving water samples shall be certified by the California Department of Public Health Environmental Laboratory Accreditation Program (ELAP) or approved by the Executive Officer and must include quality assurance/quality control (QA/QC) data in their reports. A copy of the laboratory certification shall be provided each time a new certification and/or renewal of the certification is obtained from ELAP.
- b. Water/wastewater samples must be analyzed within allowable holding time limits as specified in 40 CFR, Part 136.3 (revised March 12, 2007). All QA/QC analyses must be run on the same dates that samples are actually analyzed. The Discharger shall retain the QA/QC documentation in its files and make available for inspection and/or submit them when requested by the Regional Board. Proper chain of custody procedures must be followed and a copy of that documentation shall be submitted with the monthly report.
- c. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and to insure accuracy of measurements, or shall insure that both equipment activities will be conducted.
- d. For any analyses performed for which no procedure is specified in 40 CFR, Parts 136.3, 136.4, and 136.5, the USEPA guidelines, or in the MRP, the constituent or

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parameter analyzed and the method or procedure used must be specified in the monitoring report.

- e. Each monitoring report must affirm in writing that “all analyses were conducted at a laboratory certified for such analyses by the California Department of Public Health, or using methods approved by the Executive Officer and in accordance with current USEPA guideline procedures or as specified in this MRP.”
- f. The monitoring report shall specify the USEPA analytical method used, the Method Detection Limit (MDL), and the Reporting Level (RL) ~~[the applicable minimum level (ML) or reported Minimum Level (RML)]~~ as defined in Attachment A for each pollutant. The MLs are those published by the State Board in the *Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, February 9, 2005, Appendix 4. The ML represents the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interference. When all specific analytical steps are followed and after appropriate application of method specific factors, the ML also represents the lowest standard in the calibration curve for that specific analytical technique. When there is deviation from the method analytical procedures, such as dilution or concentration of samples, other factors may be applied to the ML depending on the sample preparation. The resulting value is the reported minimum level.
- g. The Discharger shall select the analytical method that provides a ML lower than the permit limit established for a given parameter, unless the Discharger can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR, Part 136, and obtains approval for a higher ML from the Executive Officer, as provided for in section J, below. If the effluent limitation is lower than all the MLs in Appendix 4, SIP, the Discharge must select the method with the lowest ML for compliance purposes. The Discharger shall include in the Annual Summary Report a list of the analytical methods employed for each test.
- h. The Discharger shall instruct its laboratories to establish calibration standards so that the ML (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve. In accordance with section J, below, the Discharger's laboratory may employ a calibration standard lower than the ML in Appendix 4 of the SIP.
- i. In accordance with Section 2.4.3 of the SIP, the Regional Board Executive Officer, in consultation with the State Board's Quality Assurance Program Manager, may establish an ML that is not contained in Appendix 4 of the SIP to be included in the discharger's permit in any of the following situations:
 - 1. When the pollutant under consideration is not included in Appendix 4, SIP;

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2. When the discharger and the Regional Board agree to include in the permit a test method that is more sensitive than those specified in 40 CFR, Part 136 (revised as of March 12, 2007);
3. When a discharger agrees to use an ML that is lower than those listed in Appendix 4;
4. When a discharger demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Appendix 4 and proposes an appropriate ML for the matrix; or,
5. When the discharger uses a method, which quantification practices are not consistent with the definition of the ML. Examples of such methods are USEPA-approved method 1613 for dioxins, and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the discharger, the Regional Board, and the State Water Resources Control Board shall agree on a lowest quantifiable limit and that limit will substitute for the ML for reporting and compliance determination purposes.

If there is any conflict between foregoing provisions and the State Implementation Policy (SIP), the provisions stated in the SIP (Section 2.4) shall prevail.

- j. If the Discharger samples and performs analyses (other than for process/operational control, startup, research, or equipment testing) on any influent, effluent, or receiving water constituent more frequently than required by this Program using approved analytical methods, the results of those analyses shall be included in the report. These results shall be reflected in the calculation of the average used in demonstrating compliance with average effluent, receiving water, etc., limitations.
- k. The Discharger shall develop and maintain a record of all spills or bypasses of raw or partially treated sewage from its collection system or treatment plant according to the requirements in the WDR section of this Order. This record shall be made available to the Regional Board upon request and a spill summary shall be included in the annual summary report.
- l. For all bacteriological analyses, sample dilutions should be performed so the expected range of values is bracketed (for example, with multiple tube fermentation method or membrane filtration method, 2 to 16,000 per 100 ml for total and fecal coliform, at a minimum, and 1 to 1000 per 100 ml for enterococcus). The detection methods used for each analysis shall be reported with the results of the analyses.
 1. Detection methods used for coliforms (total and fecal) shall be those presented in Table 1A of 40 CFR, Part 136 (revised March 12, 2007), unless alternate methods have been approved in advance by the United State Environmental Protection Agency (USEPA) pursuant to 40 CFR Part 136.
 2. Detection methods used for enterococcus shall be those presented in Table 1A of 40 CFR, Part 136 (revised March 12, 2007) or in the USEPA publication EPA

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600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water By Membrane Filter Procedure*, or any improved method determined by the Regional Board to be appropriate.

II. REGIONAL MONITORING PROVISIONS

- A. Pursuant to the Code of Federal Regulations [40 CFR, Section 122.41(j) and Section 122.48(b)], the monitoring program for a discharger receiving an NPDES permit must be designed to determine compliance with NPDES permit terms and conditions, and demonstrate that State water quality standards are met.
- B. NPDES compliance monitoring focuses on the effects of a specific point source discharge. Generally, it is not designed to assess impacts from other sources of pollution (e.g., nonpoint source runoff, aerial fallout) or to evaluate the current status of important ecological resources in the waterbody. The scale of existing compliance monitoring programs does not match the spatial and, to some extent, temporal boundaries of the important physical and biological processes in the ocean. In addition, the spatial coverage provided by compliance monitoring programs is less than ten percent of the nearshore ocean environment. Better technical information is needed about status and trends in ocean waters to guide management and regulatory decisions, to verify the effectiveness of existing programs, and to shape policy on marine environmental protection.
- C. The Regional Board and USEPA, working with other groups, have developed a comprehensive basis for effluent and receiving water monitoring appropriate to large publicly owned treatment works (POTWs) discharging to waters of the Southern California Bight. This effort has culminated in the publication by the SCCWRP of the Model Monitoring Program guidance document (Schiff, K.C., J.S. Brown and S.B. Weisberg. 2001. *Model Monitoring Program for Large Ocean Dischargers in Southern California*. SCCWRP Tech. Rep #357. Southern California Coastal Water Research Project, Westminster, CA. 101 pp.). This guidance provides the principles, framework and recommended design for effluent and receiving water monitoring elements which have guided development of the monitoring program described below.
- D. The conceptual framework for the Model Monitoring Program has three components that comprise a range of spatial and temporal scales: (A) core monitoring; (B) regional monitoring; and (C) special studies.
 - 1. Core monitoring is local in nature and focused on monitoring trends in quality and effects of the point source discharge. This includes effluent monitoring as well as some aspects of receiving water monitoring. In the monitoring program described below these core components are typically referred to as local monitoring.
 - 2. Regional monitoring is focused on questions that are best answered by a region-wide approach that incorporates coordinated survey design and sampling

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techniques. The major objective of regional monitoring is to collect information required to assess how safe it is to swim in the ocean, how safe it is to eat seafood from the ocean, and whether the marine ecosystem is being protected. Key components of regional monitoring include elements to address pollutant mass emission estimations, public health concerns, monitoring of trends in natural resources, assessment of regional impacts from all contaminant sources, and protection of beneficial uses. The final design of regional monitoring programs is developed by means of steering committees and technical committees comprised of participating agencies and organizations, and is not specified in this permit. Instead, for each regional component, the degree and nature of participation of the Discharger is specified. For this permit, these levels of effort are based upon past participation of the City of Los Angeles in regional monitoring programs.

The Discharger shall participate in regional monitoring activities coordinated by the SCCWRP or any other appropriate agency approved by the Regional Board and USEPA. The procedures and time lines for the Regional Board and USEPA approval shall be the same as detailed for special studies, below.

3. Special studies under the Model Monitoring Program are focused on refined questions regarding specific effects or development of monitoring techniques and are anticipated to be of short duration and/or small scale, although multiyear studies also may be needed. Questions regarding effluent or receiving water quality, discharge impacts, ocean processes in the area of the discharge, or development of techniques for monitoring the same, arising out of the results of core or regional monitoring, may be pursued through special studies. These studies are by nature often ad hoc and cannot be typically anticipated in advance of the five-year permit cycle.

The Discharger, Regional Board and USEPA shall consult annually to determine the need for special studies. Each year, the Discharger shall submit proposals for any proposed special studies to the Regional Board and USEPA by December 30, for the following year's monitoring effort (July through June). The following year, detailed scopes of work for proposals, including reporting schedules, shall be presented by the Discharger at a Spring Regional Board meeting, to obtain the Regional Board and USEPA approval and to inform the public. Upon approval by the Regional Board and USEPA, the Discharger shall implement its special study or studies.

- E. Discharger participation in regional monitoring programs is required as a condition of this permit. The Discharger shall complete collection and analysis of samples in accordance with the schedule established by the Steering Committee directing the Bight-wide regional monitoring surveys. The level of participation shall be similar to that provided by the Discharger in previous regional surveys conducted in 1994, 1998, 2003, and 2008. The regional programs which must be conducted under this permit include:

1. Future Southern California Bight regional surveys, including benthic infauna, sediment chemistry, fish communities, fish predator risk.
 2. Santa Monica Bay Restoration Project's Seafood Safety Survey – the level of participation shall be equivalent to that outlined by the Santa Monica Bay Restoration Commission's Local Seafood Safety monitoring design.
- F. Regular regional monitoring for the Southern California Bight has been established, occurring at four- to five-year intervals, and coordinated through SCCWRP with discharger agencies and numerous other entities. The fourth regional monitoring program (Bight'08) occurred during 2008 and 2010. While participation in regional programs is required under this permit, revisions to the Terminal Island monitoring program at the direction of the Regional Board and USEPA may be necessary to accomplish the goals of regional monitoring or to allow the performance of special studies to investigate regional or site-specific water issues of concern. These revisions may include a reduction or increase in the number of parameters to be monitored, the frequency of monitoring, or the number and size of samples to be collected. Such changes may be authorized by the Executive Officer and USEPA upon written notification to the Discharger.

III. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table 1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
Influent Monitoring Station		
--	INF-001	Sampling stations shall be established at each point of inflow to the sewage treatment plant and shall be located upstream of any in-plant return flows and where representative samples of the influent can be obtained.
Effluent Monitoring Station		
001	EFF-001	The effluent sampling station shall be located downstream of any in-plant return flows and after the final disinfection process, where representative samples of the effluent can be obtained. The current effluent sampling station meets the above requirements and captures tertiary treated effluent as well as brine waste discharged from the Advanced Water Treatment Facility.
Receiving Water Monitoring Station		
Water Quality Monitoring Stations		
	HW20	33° 43' 38.5" N, 118° 13' 58.5" W
	HW21	33° 43' 34.9" N, 118° 14' 12" W
	HW23	33° 43' 27" N, 118° 14' 38.5" W
	HW24	33° 43' 23.1" N, 118° 14' 52" W

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Discharge Point Name	Monitoring Location Name	Monitoring Location Description
Receiving Water Monitoring Station		
Water Quality Monitoring Stations		
	HW33	33° 43' 19.6 21.8" N, 118° 14' 36.2" W
	HW40	33° 43' 29.5" N, 118° 13' 51.8" W
	HW41	33° 43' 25.6" N, 118° 14' 4.9" W
	HW43	33° 43' 17.7" N, 118° 14' 32" W
	HW44	33° 43' 14.8" N, 118° 14' 44.9" W
	HW47	33° 42' 56.8" N, 118° 15' 55.8" W
	HW49	33° 42' 40" N, 118° 16' 43" W
	HW50	33° 43' 19.5" N, 118° 13' 45" W
	HW51	33° 43' 15.8" N, 118° 13' 57.8" W
	HW53	33° 43' 7.3" N, 118° 14' 24.3" W
	HW54	33° 43' 3.3" N, 118° 14' 38" W
	HW56	33° 42' 44" N, 118° 15' 32.7" W
	HW62	33° 43' 2.3" N, 118° 14' 4.2" W
	HW63	33° 42' 58" N, 118° 14' 17.2" W
	HW64	33° 42' 53.5" N, 118° 14' 30.7" W
	HW65	33° 42' 33.4" N, 118° 15' 11.7" W
Microbiological Monitoring Stations		
	CB-1	33° 42' 48" N, 118° 16' 57" W
	CB-2	33° 42' 41" N, 118° 16' 57" W
	HW07	33° 43' 21" N, 118° 16' 12" W
	HW16	33° 43' 20" N, 118° 15' 42" W
	HW20	33° 43' 38.5" N, 118° 13' 58.5" W
	HW23	33° 43' 27" N, 118° 14' 38.5" W
	HW24	33° 43' 23.1" N, 118° 14' 52" W
	HW29	33° 42' 57" N, 118° 16' 38" W
	HW33	33° 43' 19.6 21.8" N, 118° 14' 36.2" W
	HW44	33° 43' 14.8" N, 118° 14' 44.9" W
	HW49	33° 42' 40" N, 118° 16' 43" W
	HW50	33° 43' 19.5" N, 118° 13' 45" W
	HW53	33° 43' 7.3" N, 118° 14' 24.3" W
	HW54	33° 43' 3.3" N, 118° 14' 38" W
	HW56	33° 42' 44" N, 118° 15' 32.7" W
	HW62	33° 43' 2.3" N, 118° 14' 4.2" W
	HW64	33° 42' 53.5" N, 118° 14' 30.7" W
Acute Toxicity Sampling Stations		
	HW23	33° 43' 27" N, 118° 14' 38.5" W
	HW33	33° 43' 21.8" N, 118° 14' 33.4 36.2" W
Chronic Toxicity Sampling Stations		
	HW24	33° 43' 23.1" N, 118° 14' 52" W
	HW43	33° 43' 17.7" N, 118° 14' 32" W

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Discharge Point Name	Monitoring Location Name	Monitoring Location Description
Receiving Water Monitoring Station		
Macrofaunal and Sediment Monitoring Stations		
	HM2	33° 43' 23" N, 118° 14' 41.5" W
	HM3	33° 43' 21.8" N, 118° 14' 33.4" W
	HM4	33° 43' 33.3" N, 118° 13' 55.7" W
	HM6	33° 43' 16.8" N, 118° 14' 38" W
	HM7	33° 43' 19.5" N, 118° 13' 45" W
	HM8	33° 43' 7.3" N, 118° 14' 24.3" W
	HM9	33° 42' 57.8" N, 118° 14' 17.5" W
	HM10	33° 42' 48.8" N, 118° 14' 43" W
	HM11	33° 42' 44.2" N, 118° 15' 32.5" W
	HM12	33° 42' 46" N, 118° 16' 15.3" W
	HM13	33° 42' 39" N, 118° 14' 4.8" W
Trawl Sampling Stations		
	HT5	33° 42' 39" N, 118° 14' 4.8" W
	HT7	33° 43' 21.826" N, 118° 14' 33.441.2" W
	HT9	33° 43' 33.5" N, 118° 14' 6" W
	HT10	33° 42' 51.95" N, 118° 14' 36.3" W
	HT12	33° 42' 51.914.8" N, 118° 14' 36.344.9" W
	HT13	33° 43' 15.52.3" N, 118° 14' 584.2" W

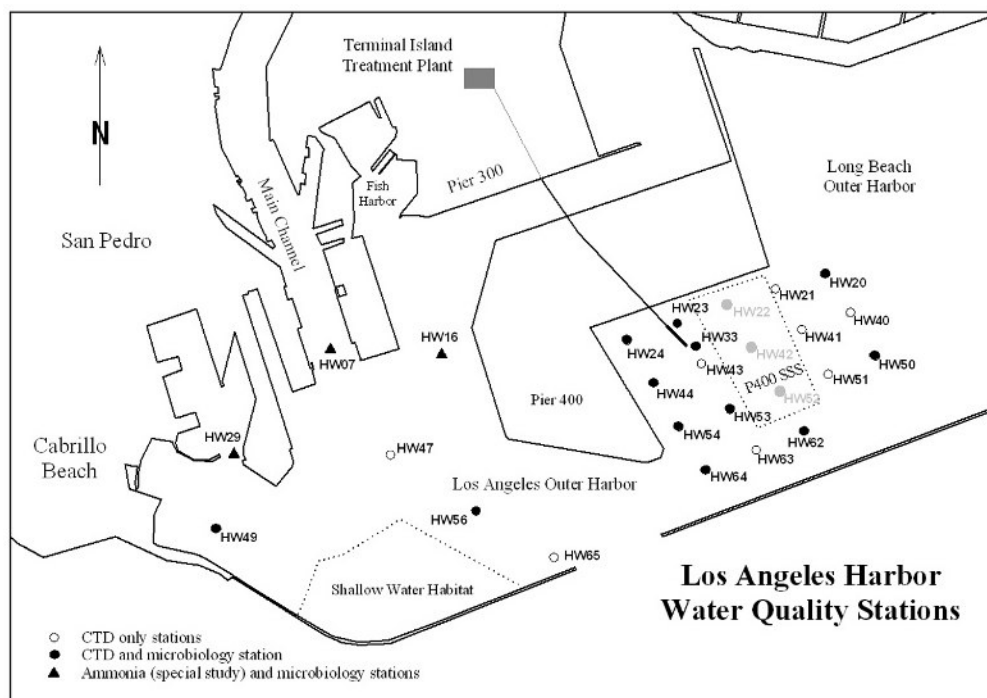


Figure E-1 Locations of Water Quality Monitoring Stations

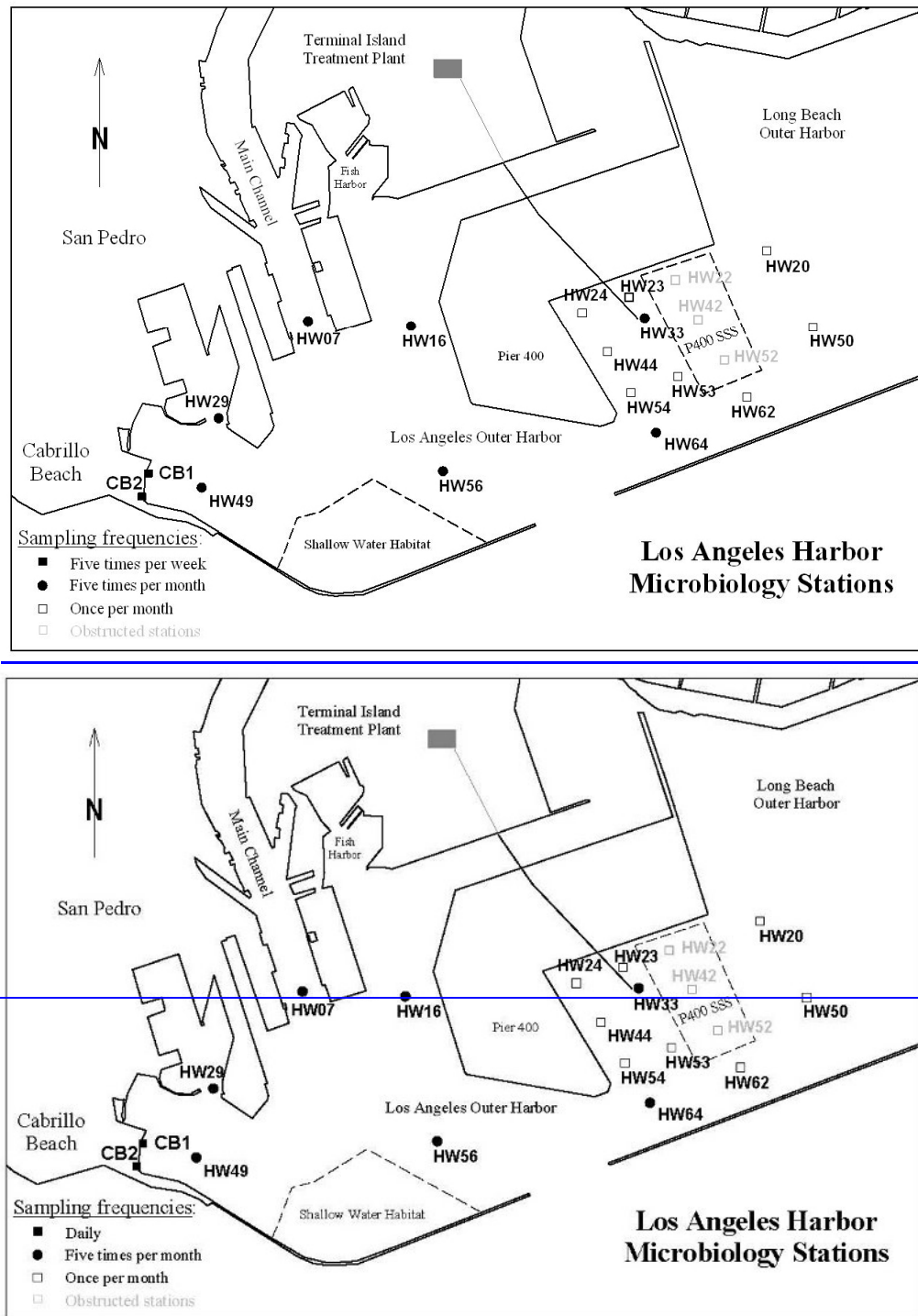


Figure E-2 Locations of Microbiological Monitoring Stations

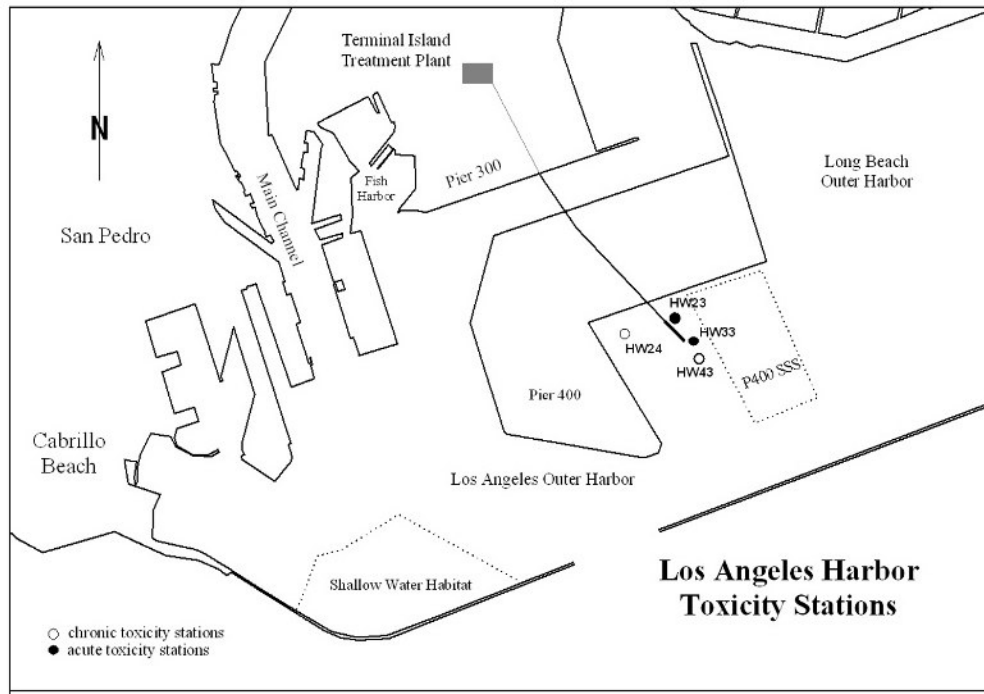
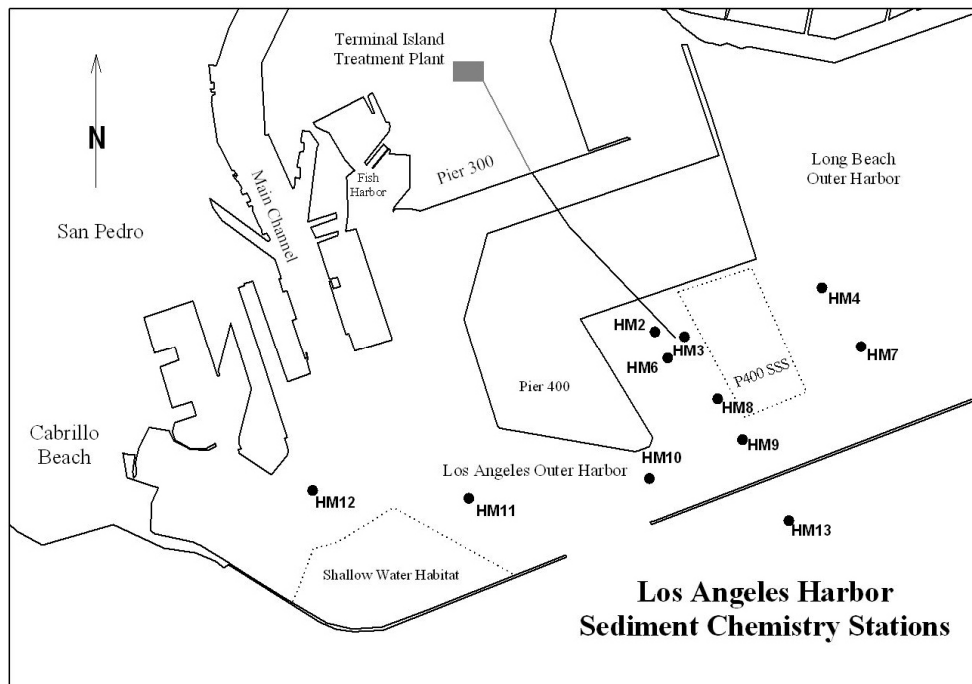


Figure E-3 Locations of Acute and Chronic Toxicity Monitoring Stations



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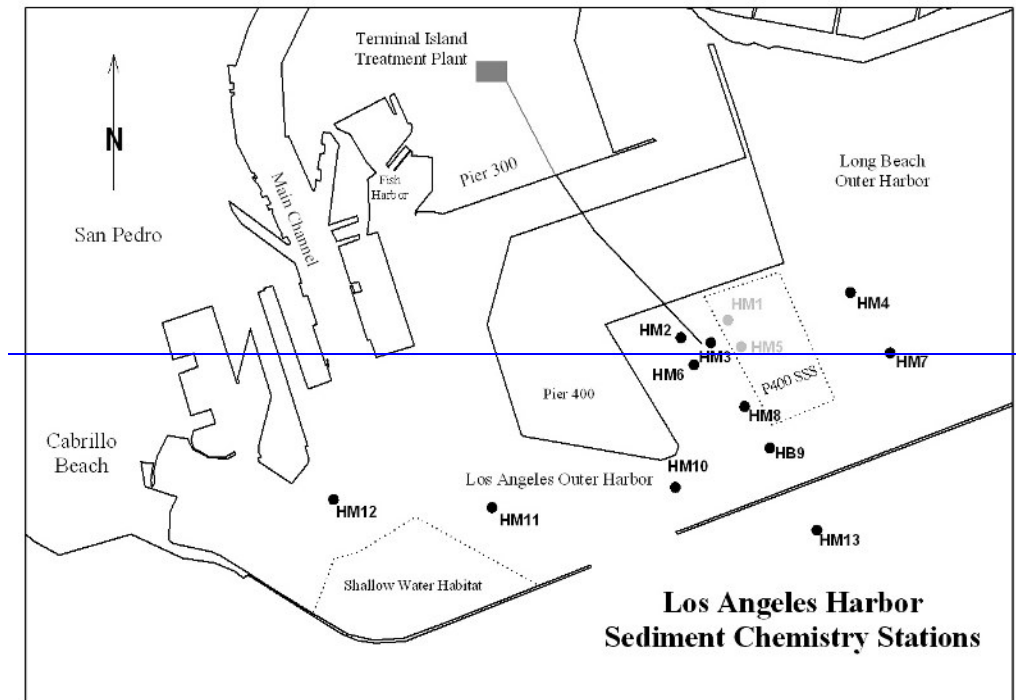


Figure E-4 Locations of Macrofaunal and Sediment Monitoring Stations

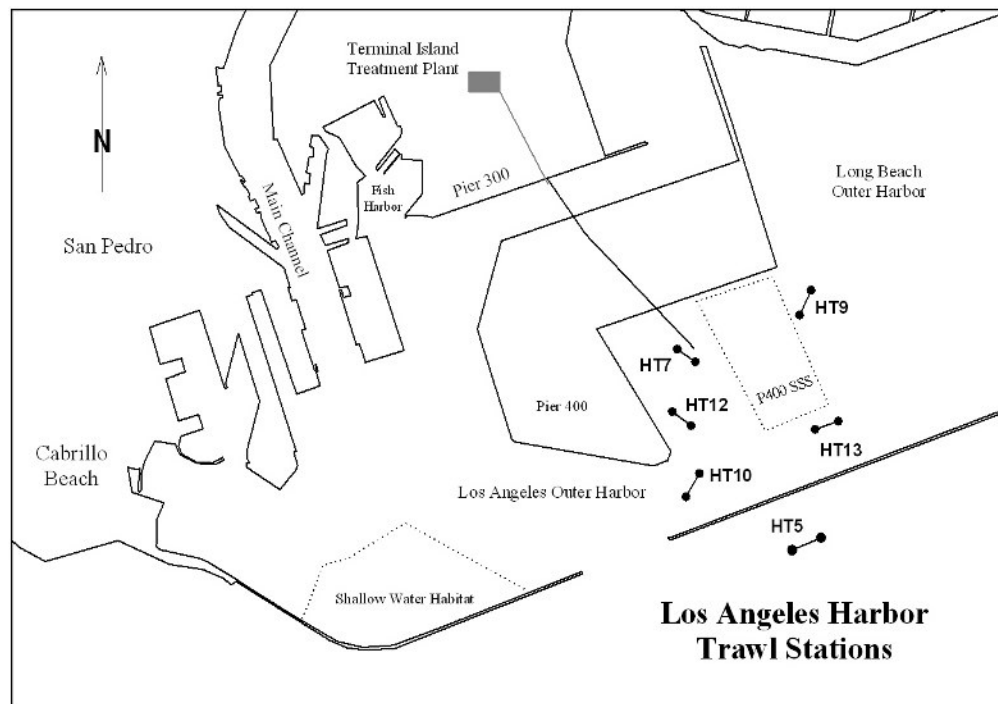


Figure E-5 Locations of Trawling Stations

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IV. INFLUENT MONITORING REQUIREMENTS

Influent monitoring is required to:

- Determine compliance with NPDES permit conditions.
- Assess treatment plant performance.
- Assess effectiveness of the Pretreatment Program

A. Monitoring Location

1. The Discharger shall monitor influent to the facility at INF-001 as follows:

Table 2. Influent Monitoring at INF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	recorder	continuous	1
pH	pH units	grab	weekly	2
Suspended solids	mg/L	24-hour composite	weekly	2
BOD ₅ 20°C	mg/L	24-hour composite	weekly	2
Copper	µg/L	24-hour composite	quarterly	2
Lead	µg/L	24-hour composite	quarterly	2
Mercury	µg/L	24-hour composite	quarterly	2
Nickel	µg/L	24-hour composite	quarterly	2
Silver	µg/L	24-hour composite	quarterly	2
Cyanide	µg/L	grab	quarterly	2
Bis(2-ethylhexyl)phthalate	µg/L	24-hour composite	quarterly	2
Pesticides ³	µg/L	24-hour composite	semiannually	2
Remaining EPA priority pollutants ⁴ excluding asbestos	µg/L	24-hour composite/ grab for VOCs and Chromium VI	semiannually	2

¹ Total daily flow and instantaneous peak daily flow (24-hr basis). Actual monitored flow shall be reported (not the maximum flow, i.e., design capacity).

² Pollutants shall be analyzed using the analytical methods described in 40 CFR 136; where no methods are specified for a given pollutant, by methods approved by this Regional Board or State Water Resources Control Board. For any pollutant whose effluent limitation is lower than all the minimum levels (MLs) specified in Attachment 4 of the SIP, the analytical method with the lowest ML must be selected.

³ Pesticides are, for purposes of this order, those six constituents referred to in 40 CFR, Part 125.58 (m) (demeton, guthion, malathion, methoxychlor, mirex, and parathion).

⁴ Priority pollutants are those constituents referred to in 40 CFR 401.15; a list of these pollutants is provided as Appendix A to 40 CFR 423.

V. EFFLUENT MONITORING REQUIREMENTS

Effluent monitoring is required to:

- Determine compliance with NPDES permit conditions and water quality standards.
- Assess plant performance, identify operational problems and improve plant performance.
- Provide information on wastewater characteristics and flows for use in interpreting water quality and biological data.
- Determine reasonable potential analysis for toxic pollutants.

A. Monitoring Location EFF-001

The Discharger shall monitor combined flow of tertiary-treated effluent as well as brine waste discharged from the Advanced Water Treatment Facility at EFF-001 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table 3. Effluent Monitoring at EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method, and (Minimum Level, and Units), respectively
Total waste flow	mgd	recorder	continuous ⁵	6
Turbidity	NTU	recorder	continuous ⁵	6
Total residual chlorine	mg/L	recorder	continuous ⁷	6
Temperature	°F	grab	weekly	6
pH	pH units	grab	weekly	6
Settleable solids	ml/L	grab	weekly	6

⁵ Where continuous monitoring of a constituent is required, the following shall be reported:

Total waste flow – Total daily and peak daily flow (24-hr basis);

Turbidity – Maximum daily value, total amount of time each day the turbidity exceeded five turbidity units, flow-proportioned average daily value. Grab sample can be used to determine compliance with the 10 NTU limit.

⁶ Pollutants shall be analyzed using the analytical methods described in 40 CFR 136; where no methods are specified for a given pollutant, by methods approved by this Regional Board or State Water Resources Control Board. For any pollutant whose effluent limitation is lower than all the minimum levels (MLs) specified in Attachment 4 of the SIP, the analytical method with the lowest ML must be selected.

⁷ Total residual chlorine shall be recorded continuously. The recorded data shall be maintained by the Permittee for at least five years. The Permittee shall extract the maximum daily peak, minimum daily peak, and average daily from the recorded media and shall be made available upon request of the Regional Board.

~~The continuous monitoring data are not intended to be used for compliance determination purposes.~~

REVISED TENTATIVE

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Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method, and (Minimum Level, and Units), respectively
Suspended solids	mg/L	24-hour composite	weekly	6
BOD ₅ 20°C	mg/L	24-hour composite	weekly	6
Oil and grease	mg/L	grab	weekly	6
Dissolved oxygen	mg/L	grab	weekly	6
Ammonia nitrogen	mg/L	24-hour composite	monthly	6
Nitrate + nitrite nitrogen	mg/L	24-hour composite	monthly	6
Organic nitrogen	mg/L	24-hour composite	monthly	6
Total nitrogen	mg/L	24-hour composite	monthly	6
Surfactants (MBAS) ⁸	mg/L	24-hour composite	monthly	6
Surfactants (CTAS) ⁸	mg/L	24-hour composite	monthly	6
Acute toxicity ⁹	% Survival	24-hour composite	monthly	6
Chronic toxicity ¹⁰	TUc	24-hour composite	monthly	6
Copper	µg/L	24-hour composite	monthly	6
Cyanide	µg/L	grab	quarterly	6
Remaining EPA priority metals	µg/L	Grab/ 24-hour composite	quarterly	6
Bromoform	µg/L	grab	quarterly	6
2,3,7,8-TCDD ¹¹	µg/L	24-hour composite	semiannually	6
Chlorodibromomethane	µg/L	24-hour composite grab	quarterly	6
Chloroform	µg/L	grab	quarterly	6
Dichlorobromomethane	µg/L	grab	quarterly	6
Ethylbenzene	µg/L	grab	quarterly	6
Methylene chloride	µg/L	grab	quarterly	6

⁸ MBAS is Methylene blue active substances and CTAS is cobalt thiocyanate active substances. These substances disturb the surface tension, which affects insects and can affect gills in aquatic life.

⁹ See Section VI.A.

¹⁰ See Section VI.B.

¹¹ In accordance with the SIP, the Discharger shall conduct effluent monitoring for the seventeen 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD or dioxin) congeners in the effluent. The Discharger shall use the appropriate Toxicity Equivalence Factor (TEF) to determine Toxic Equivalence (TEQ). Where TEQ equals the product between each of the 17 individual congeners' (i) concentration analytical result (C_i) and their corresponding Toxicity Equivalence Factor (TEF_i), (i.e., TEQ_i = C_i x TEF_i). Compliance with the Dioxin limitation shall be determined by the summation of the seventeen individual TEQs, or the following equation:

$$\text{Dioxin concentration in effluent} = \sum_{i=1}^{17} (\text{TEQ}_i) = \sum_{i=1}^{17} (C_i)(\text{TEF}_i)$$

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method, and (Minimum Level, and <u>μUnits</u>), respectively
Tetrachloroethylene	μg/L	grab	quarterly	6
Toluene	μg/L	grab	quarterly	6
Trichloroethylene	μg/L	grab	quarterly	6
2,4,6-Trichlorophenol	μg/L	24-hour composite	quarterly	6
Bis(2-ethylhexyl)Phthalate	μg/L	24-hour composite	quarterly	6
Dibenzo(a,h)Anthracene	μg/L	24-hour composite	quarterly	6
Indeno(1,2,3-cd)Pyrene	μg/L	24-hour composite	quarterly	6
Pyrene	μg/L	24-hour composite	quarterly	6
Pesticide ¹²	μg/L	24-hour composite	semiannually	6
Remaining EPA priority pollutants ¹³ excluding asbestos	μg/L	24-hour composite/ grab for VOCs	semiannually	6
Tributyltin	μg/L	24-hour composite	semiannually	6
Radioactivity ¹⁴	PCi/L	24-hour composite	semiannually	6

~~B. Total Residual Chlorine Additional Monitoring~~

~~Continuous monitoring of total residual chlorine at EFF-001X (See Table 1. Monitoring Station Locations of MRP) shall serve as an internal trigger for the increased grab sampling at EFF-001X, if either of the following occurs, except as noted in item 3:~~

- ~~1. Total residual chlorine concentration excursions of up to 0.3 mg/L lasting greater than 15 minutes; or~~
- ~~2. Total residual chlorine concentration peaks in excess of 0.3 mg/L lasting greater than 1 minute.~~
- ~~3. Additional grab samples need not be taken if it can be demonstrated that a stoichiometrically appropriate amount of dechlorination chemical has been added to effectively dechlorinate the effluent to 0.1 mg/L or less for peaks in~~

¹² Pesticides are, for purposes of this order, those six constituents referred to in 40 CFR, Part 125.58 (p) (demeton, guthion, malathion, methoxychlor, mirex, and parathion).

¹³ Priority pollutants are those constituents referred to in 40 CFR 401.15; a list of these pollutants is provided as Appendix A to 40 CFR 423.

¹⁴ Analyze these radiochemicals by the following USEPA methods: method 900.0 for gross alpha and gross beta, method 903.0 or 903.1 for radium-226, method 904.0 for radium-228, method 906.0 for tritium, method 905.0 for strontium-90, and method 908.0 for uranium. Analysis for combined Radium-226 & 228 shall be conducted only if gross alpha results for the same sample exceed 15 pCi/L or beta greater than 50 pCi/L. If Radium-226 & 228 exceeds the stipulated criteria, analyze for Tritium, Strontium-90 and uranium.

~~excess of 0.3 mg/L lasting more than 1 minute, but not for more than five minutes.~~

GB. Tertiary Filter Treatment Bypasses

1. During any day that the filters are bypassed (also see Section VII.5 of this MRP), the Discharger shall monitor the effluent for BOD, suspended solids, settleable solids, and oil and grease, on a daily basis, until it is demonstrated that the filter “bypass” has not caused an adverse impact on the receiving water.
2. The Discharger shall maintain a chronological log of tertiary filter treatment process bypasses, to including the following:
 - a. Date and time of bypass start and end;
 - b. Total duration time; and,
 - c. Estimated total volume bypassed.
3. The Discharger shall notify Regional Board staff by telephone within 24 hours of the filter bypass event.
4. The Discharger shall submit a written report to the Regional Board, according to the corresponding monthly self-monitoring report schedule. The report shall include, at a minimum, the information from the chronological log. Results from the daily effluent monitoring, required by Section VI.5.A. above, shall be submitted to the Regional Board in the Discharger’s self-monitoring report as soon as the results become available.

VI. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity

1. Definition of Acute Toxicity

Acute toxicity is a measure of primarily lethal effects that occur over a 96-hour period. Acute toxicity shall be measured in percent survival measured in undiluted (100%) effluent.

- a. The average survival in the undiluted effluent for any three (3) consecutive 96-hour static renewal or continuous flow bioassay tests shall be at least 90%, and
- b. No single test shall produce less than 70% survival.

2. Acute Toxicity Effluent Monitoring Program

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- a. **Test Method and Test Species.** The Discharger shall conduct 96-hour static renewal acute toxicity tests on flow-weighted 24-hour composite 100% effluent samples, generally by methods specified in 40 CFR Part 136 which cites USEPA's *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, October 2002, USEPA, Office of Water, Washington D.C. (EPA/821/R-02/012) or a more recent edition to ensure compliance. The Discharger shall use marine vertebrate (Topsmelt, *Atherinops affinis*) and a marine invertebrate species (West Coast mysid, *Holmesimysis costata*) of Pacific Coast waters, which are specified in USEPA's *Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms*, First Edition, August 1995 (EPA/600/R-95/136). However, if *Holmesimysis costata* is not available, then East Coast Mysid, *Americamysis bahia* can be used for test species, because *Holmesimysis costata* may not be easily cultured, tested, or available from commercial sources.

Effluent samples shall be collected after all treatment processes and before discharge to the receiving water. Where a sample has been dechlorinated prior to submittal to the laboratory, a statement to that effect must be made in the report.

- b. **Alternate Reporting.** For the acute toxicity testing with topsmelt (*Atherinops affinis*), the Discharger may elect to report the results or endpoint from the first 96 hours of the chronic toxicity test as the results of the acute toxicity test, using USEPA's August 1995 method (EPA/600/R-95/136) to conduct the chronic toxicity test.
- c. **Frequency**
- i. **Screening** – The Discharger shall conduct the first acute toxicity test screening using a marine vertebrate species (Topsmelt, *Atherinops affinis*) and a marine invertebrate species (West Coast mysid, *Holmesimysis costata*) for three consecutive months in 2010.
 - ii. **Re-screening** is required every 24 months. The Discharger shall re-screen with a marine vertebrate species and a marine invertebrate species and continue to monitor with the most sensitive species. If the first suite of re-screening tests demonstrate that the same species is the most sensitive, then the re-screening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity/uncertainty, then the Discharger shall proceed with suites of screening tests for a minimum of three, but not to exceed five suites.
 - iii. **Regular toxicity tests** – After the screening period, monitoring shall be conducted monthly using the most sensitive marine species.

c.d. Acute Toxicity Accelerated Monitoring. If either of the above requirements (effluent or receiving water acute toxicity requirements in Section VI.A.1.a. and VI.A.1.b.) is not met, the Discharger shall conduct six additional tests, approximately every two weeks, over a 12-week period. The Discharger shall ensure that they receive results of a failing toxicity test within 24 hours of the close of the test and the additional tests shall begin within 5 business days of the receipt of the result. If the additional tests indicate compliance with the toxicity limitation, the Discharger may resume regular testing.

d.c. Toxicity Identification Evaluation (TIE).

- i. If the results of any two of the six accelerated tests are less than 90% survival, then the Discharger shall immediately begin a Toxicity Identification Evaluation (TIE) and implement the Initial Investigation Toxicity Reduction Evaluation (TRE) workplan. The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the objective.
- ii. If the initial test and any of the additional six acute toxicity bioassay tests results are less than 70% survival, the Discharger shall immediately begin a Toxicity Identification Evaluation (TIE) and implement Initial Investigation Toxicity Reduction Evaluation (TRE) workplan. Once the sources are identified the Discharger shall take all reasonable steps to reduce toxicity to meet the requirements.

B. Chronic Toxicity Testing

1. Definition of Chronic Toxicity

Chronic toxicity measures a sublethal effect (e.g., reduced growth, reproduction) to experimental test organisms exposed to an effluent or ambient waters compared to that of the control organisms. Chronic toxicity shall be measured in TU_c , where $TU_c = 100/NOEC$. The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.

2. Chronic Toxicity Effluent Monitoring Program

- a. **Test Methods and Test Species.** The Discharger shall conduct the critical life stage chronic toxicity tests on 24-hour composite ~~60%~~¹⁵ ~~or~~

¹⁵ ~~Based on MRP CI-2171 specified in Order No. R4-2005-0024, if either the red abalone (*Haliotis rufescens*) or the giant kelp (*Macrocystis pyrifera*) is chosen as one of final test species, then 60% effluent is allowed to be used, because they cannot survive in 100% effluent. The freshwater whole effluent sample shall be diluted by~~

100%¹⁵-effluent samples in accordance with EPA's *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995).

Effluent samples shall be collected after all treatment processes and before discharge to the receiving water. Where a sample has been dechlorinated prior to submittal to the laboratory, a statement to that effect must be made in the report.

b. **Frequency**

i. **Screening** – The Discharger shall conduct the first chronic toxicity test screening for three consecutive months with a marine vertebrate (Topsmelt, *Atherinops affinis*), a marine invertebrate (mysid, *Holmesimysis costata*; pacific oyster, *Crassostrea gigas*; mussel, *Mytilus* spp.; red abalone, *Haliotis rufescens*; purple sea urchin, *Strongylocentrotus purpuratus*; or sand dollar, ~~*Dentraster*~~ *Dendraster excentricus*), and a marine plant (giant kelp, *Macrocystis pyrifera*) for the first three suites of tests. After the screening period, monitoring shall be conducted using the most sensitive species. The first screening under this Monitoring Program should be conducted in 20102011.

ii. **Re-screening** is required every 24 months. The Discharger shall re-screen with the three species listed above and continue to monitor with the most sensitive species. If the first suite of re-screening tests demonstrates that the same species is the most sensitive then the re-screening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity, then the Discharger shall proceed with suites of screening tests for a minimum of three, but not to exceed five suites.

iii. **Regular toxicity tests** – After the screening period, monitoring shall be conducted monthly using the most sensitive species.

c. **Effluent samples** shall be collected after all treatment processes and before discharge to the receiving water.

3. **Accelerated Monitoring**

If toxicity is detected as defined in Order No. R4-2010-XXXX, Section IV.A.2.e.iv., then the Discharger shall conduct six additional tests,

~~hypersaline brine (prepared from natural seawater, in accordance with the test methods manual) prior to conducting the marine chronic toxicity test, a hypersaline brine control shall also be used. However, the Discharge shall request for a new percentage effluent, if the screening or re-screening tests using other non-vertebrate show the different results than the 60% effluent. The Executive Officer can approve the request. If topsmelt is selected as the most sensitive species (see Section I.2.I.c.ii. of the accompanying Permit), then 100% effluent shall be used in the chronic toxicity test procedures.~~

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approximately every 2 weeks (14 days), over a twelve-week period. The Discharger shall ensure that they receive results of a failing chronic toxicity test within 24 hours of the completion of the test and the additional tests shall begin within 5 business days of the receipt of the result.

- a. If any three out of the initial test and the six additional tests results exceed 62 TU_c trigger, the Discharger shall immediately implement the Initial Investigation of the TRE.
- b. If implementation of the initial investigation TRE Workplan indicates the source of toxicity (e.g., a temporary plant upset, etc.), then the Discharger shall return to the normal sampling frequency required in Table 3 of this MRP.
- c. If all of the six additional tests required above do not exceed 62 TU_c, then the Discharger may return to the normal sampling frequency required in Table 3 of this MRP.
- d. ~~If a TRE/TIE is initiated prior to completion of the accelerated testing schedule required, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE, as determined by the Executive Officer.~~

C. Quality Assurance

1. Concurrent testing with a reference toxicant shall be conducted. Reference toxicant tests shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc).
2. If either the reference toxicant test or effluent test or receiving water does not meet all test acceptability criteria (TAC) as specified in the test methods manuals (EPA-821-R-02-012 and EPA/600/R-95/136), then the Discharger must re-sample and re-test within 14 days.
3. Control and dilution water should be receiving water or laboratory water, as appropriate, as described in the manual. If the dilution water used is different from the culture water, a second control using culture water shall be used. Because the freshwater whole effluent sample will be diluted by hypersaline brine (prepared from natural seawater, in accordance with the test methods manual) prior to conducting the marine toxicity test, a hypersaline brine control shall also be used.
4. A series of at least five dilutions and a control shall be tested. The dilution series shall include the instream waste concentration (IWC), and two dilutions above and two below the IWC. The chronic IWC for Eff-001 is 1.6% (100%/62) effluent.

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D. Preparation of an Initial Investigation TRE Workplan

The Discharger shall prepare and submit a copy of the Discharger's initial investigation Toxicity Reduction Evaluation (TRE) workplan to the Executive Officer of the Regional Board for approval within 90 days of the effective date of this permit. If the Executive Officer does not disapprove the workplan within 60 days, the workplan shall become effective. The Discharger shall use USEPA manual, *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants*, EPA/833B-99/002 (municipal) as guidance, or most current version. At a minimum, the TRE Workplan must contain the provisions in Attachment G. This workplan shall describe the steps the Discharger intends to follow if toxicity exceeds 62 TUc trigger, and should include, at a minimum:

1. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
2. A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the facility; and,
3. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor). See MRP Section V.E.3. for guidance manuals.

E. Steps in Toxicity Reduction Evaluation (TRE) and Toxicity Identification Evaluation (TIE)

1. If results of the implementation of the facility's initial investigation TRE workplan indicate the need to continue the TRE/TIE, the Discharger shall expeditiously develop a more detailed TRE workplan for submittal to the Executive Officer within 15 days of completion of the initial investigation TRE. The detailed workplan shall include, but not be limited to:
 - a. Further actions to investigate and identify the cause of toxicity;
 - b. Actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
 - c. A schedule for these actions.
2. The following section summarizes the stepwise approach used in conducting the TRE:
 - a. Step 1 includes basic data collection. Data collected for the accelerated monitoring requirements may be used to conduct the TRE.

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- b. Step 2 evaluates optimization of the treatment system operation, facility housekeeping, and selection and use of in-plant process chemicals.
- c. If Steps 1 and 2 are unsuccessful, Step 3 implements a Toxicity Identification Evaluation (TIE) and employment of all reasonable efforts using currently available TIE methodologies. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity.
- d. Assuming successful identification or characterization of the toxicant(s), Step 4 evaluates final effluent treatment options.
- e. Step 5 evaluates in-plant treatment options.
- f. Step 6 consists of confirmation once a toxicity control method has been implemented.

Many recommended TRE elements parallel source control, pollution prevention, and storm water control program best management practices (BMPs). To prevent duplication of efforts, evidence of implementation of these control measures may be sufficient to comply with TRE requirements. By requiring the first steps of a TRE to be accelerated testing, a TRE may be ended in its early stages. All reasonable steps shall be taken to reduce toxicity to the required level. The TRE may be ended at any stage if monitoring finds there is no longer toxicity (or six consecutive chronic toxicity results less than or equal to monthly median of 62 TUC, or six consecutive acute toxicity test results are greater than 90% survival).

3. The Discharger may initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. The Discharger shall use the EPA acute and chronic manuals, EPA/600/6-91/005F (Phase I) /EPA/600/R-96-054 (for marine), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III) as guidance.
4. If a TRE/TIE is initiated prior to completion of the accelerated testing required in Sections VI.A.2.d. and VI.B.3. of this program, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE, as determined by the Executive Officer .
5. Toxicity tests conducted as part of a TRE/TIE may also be used for compliance, if appropriate.
6. The Regional Board recognizes that toxicity may be episodic and identification of causes of and reduction of sources of toxicity may not be successful in all cases. Consideration of enforcement action by the Board will be based, in part, on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

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- a. If all the results of the six additional tests are in compliance with the chronic toxicity 62 TUC trigger, the Discharger may resume regular monthly testing.
- b. If the results of any of the six accelerated tests exceeds 62 TUC trigger, the Discharger shall continue to monitor weekly until six consecutive biweekly tests are in compliance. At that time, the Discharger may resume regular monthly testing.
- c. If the results of two of the six tests, or any two tests in a six-week period, exceed 62 TUC trigger, the Discharger shall initiate a TRE.
- d. If implementation of the initial investigation TRE workplan (see item B.3.b. above) indicates the source of toxicity (e.g., a temporary plant upset, etc.), then the Discharger shall return to the regular testing frequency.

F. Ammonia Removal

1. Except with prior approval from the Executive Officer of the Regional Board, ammonia shall not be removed from bioassay samples. The Discharger must demonstrate the effluent toxicity is caused by ammonia because of increasing test pH when conducting the toxicity test. It is important to distinguish the potential toxic effects of ammonia from other pH sensitive chemicals, such as certain heavy metals, sulfide, and cyanide. The following may be steps to demonstrate that the toxicity is caused by ammonia and not other toxicants before the Executive Officer would allow for control of pH in the test.
 - a. There is consistent toxicity in the effluent and the maximum pH in the toxicity test is in the range to cause toxicity due to increased pH.
 - b. Chronic ammonia concentrations in the effluent are greater than 4 mg/L total ammonia.
 - c. Conduct graduated pH tests as specified in the toxicity identification evaluation methods. For example, mortality should be higher at pH 8 and lower at pH 6.
 - d. Treat the effluent with a zeolite column to remove ammonia. Mortality in the zeolite treated effluent should be lower than the non-zeolite treated effluent. Then add ammonia back to the zeolite-treated samples to confirm toxicity due to ammonia.
2. When it has been demonstrated that toxicity is due to ammonia because of increasing test pH, pH may be controlled using appropriate procedures which do not significantly alter the nature of the effluent, after submitting a written request to the Regional Board, and receiving written permission expressing approval from the Executive Officer of the Regional Board.

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G. Reporting

The Discharger shall submit a full report of the toxicity test results, including any accelerated testing conducted during the month, as required by this permit. Test results shall be reported in percent survival (% survival) for Acute Toxicity or Chronic Toxicity Units (TU_c), as required, with the self-monitoring report (SMR) for the month in which the test is conducted. If an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, pursuant to Section VI.A.2.d. and VI.B.3., then those results also shall be submitted with the SMR for the period in which the Investigation occurred.

1. The full report shall be received by the Regional Board by the 15th day of the third month following sampling.
2. The full report shall consist of (1) the results; (2) the dates of sample collection and initiation of each toxicity test; (3) the toxicity limit; and, (4) printout of the ToxCalc or CETIS (Comprehensive Environmental Toxicity Information System) toxicity program.
3. Test results for toxicity tests also shall be reported according to the appropriate manual chapter on Report Preparation and shall be attached to the SMR. Routine reporting shall include, at a minimum, as applicable, for each test, as appropriate:
 - a. Sample date(s);
 - b. Test initiation date;
 - c. Test species;
 - d. End point value(s) for each dilution (e.g. number of young, growth rate, percent survival);
 - e. NOEC value(s) in percent effluent;
 - f. TU_c values $\left(TU_c = \frac{100}{NOEC}\right)$;
 - g. Mean percent mortality (+standard deviation) after 96 hours in 100% effluent (if applicable);
 - h. NOEC and LOEC (Lowest Observable Effect Concentration) values for reference toxicant test(s);
 - i. Any applicable charts; and,

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- j. Available water quality measurements for each test (e.g., pH, D.O., temperature, conductivity, hardness, salinity, ammonia).
4. The Discharger shall provide a compliance summary that includes a summary table of toxicity data from at least eleven of the most recent samples.
5. The Discharger shall notify by telephone or electronically, this Regional Water of any toxicity exceedance of the limit or trigger within 24 hours of receipt of the results followed by a written report within 14 calendar days of receipt of the results. The verbal or electronic notification shall include the exceedance and the plan the Discharger has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by the permit, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

VII. RECLAMATION MONITORING REQUIREMENTS

The production, distribution, and reuse of recycled water are presently regulated under Water Reclamation Requirements (WRRs) Order Nos. R4-2003-0025 and R4-2003-0134, adopted by this Board on January 30, 2003 and October 2, 2003, respectively. The City of Los Angeles (City) proposes to produce and distribute reverse osmosis (RO) treated recycled water from its Harbor Water Recycling Project (HWRP) for nonpotable applications (regulated by Order No. R4-2003-0025) - irrigation, industrial, and recreational. This Nonpotable Reuse Program is one of the two programs under the Harbor Water Recycling Project (HWRP). The other is injection of recycled water into the Dominguez Gap Barrier Project (regulated by Order No. R4-2003-0134). The HWRP programs are being undertaken by the City to comply with Regional Board Resolution No. 94-009 to ultimately phase out discharge of wastewater into the Los Angeles Harbor.

VIII. RECEIVING WATER MONITORING REQUIREMENTS

All receiving water stations, except the CB-1 and CB-2 stations (shoreline stations, at Cabrillo Beach), shall be located by state of the art navigational methods (e.g., DGPS); other means (e.g., visual triangulation, fathometer readings) may be used to improve the accuracy of locating stations. Forty-five stations are located around the Outfall, Harbor, Shallow Water Habitat, near Cabrillo Beach, and outside of Harbor. These stations are used to collect samples of water quality, bacteria, benthos, sediment chemicals, and fish tissue.

In the event that a sampling station is temporarily or permanently obstructed due to for reasons including, but not limited to, construction activities for creating new habitat, storage sites, or pier, the station may be abandoned upon notification to the Regional Board once final determination is made regarding the status of such station.

The permittee shall report the locations (latitude and longitude) of any relocated stations to this Regional Board within 15 days of the effective date of this Order or within 15 days

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after a station(s) become(s) obstructed. All receiving water stations may be subject to redesignation by this Regional Board.

A. Harbor Water Quality Monitoring

1. Water Quality Monitoring

- a. Sampling shall consist of quarterly water quality surveys for water quality profiles, weather and sea-surface observations, and discrete samples conducted during the 1st quarter (January, February, and March), the 2nd quarter (April, May, and June), the 3rd quarter (July, August, and September), and the 4th quarter (October, November, and December). Surface discrete samples shall be taken at 12 stations (HW20, HW23, HW24, HW33, HW44, HW49, HW50, HW53, HW54, HW56, HW62, and HW64, Figure E-1) for fecal coliform microbiological and ammonia analysis. Depth profiles for salinity, temperature, transmissivity, density, dissolved oxygen, chlorophyll, and pH shall be conducted quarterly at all 20 harbor stations (HW20, HW21, HW23, HW24, HW33, HW40, HW41, HW43, HW44, HW47, HW49, HW50, HW51, HW53, HW54, HW56, HW62, HW63, HW64, and HW65, Figure M1). Profiles shall be extended from the surface to as close to the bottoms as practicable using standard oceanographic sampling procedures. The monitoring parameter shall be coordinated with conductivity-temperature-depth (CTD) operations in order to obtain discrete samples simultaneously with commencement of the CTD cast.

Table 4A. Water Quality Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Salinity	psu	Discrete sampling at specified depths ¹⁶	quarterly	17
Temperature	°C	Discrete sampling at specified depths ¹⁶	quarterly	17
Transmissivity	% transmission	Discrete sampling at specified depths ¹⁶	quarterly	18
Density	Kg/m ³	Discrete sampling at specified depths ¹⁶	quarterly	17

¹⁶ Depth profile measurement shall be obtained by using multiple sensors to measure parameters throughout the entire water column (from the surface within the first 0.5 m to 2 m above the seabed, or as close to the bottom as practicable).

¹⁷ Pollutants shall be analyzed using the analytical methods described in 40 CFR 136; where no methods are specified for a given pollutant, by methods approved by this Regional Board or State Water Resources Control Board. For any pollutant whose effluent limitation is lower than all the minimum levels (MLs) specified in Attachment 4 of the SIP, the analytical method with the lowest ML must be selected.

¹⁸ Light transmittance (transmissivity) shall be measured with a transmissometer, ~~using equipment and procedure similar to that described by L.V. Whitney ["Transmission of Solar Energy and the Scattering Produced by Suspensoids in Lake Waters," Transactions of the Wisconsin Academy of Sciences, Arts, and Letters, Vol. 31 (1938)]~~. Results shall be expressed as the percent of light transmittance. Path length of transmissometer should be noted.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dissolved oxygen	mg/L	Discrete sampling at specified depths ¹⁶	quarterly	¹⁷
Chlorophyll	µg/L	Discrete sampling at specified depths ¹⁶	quarterly	¹⁷
pH	pH unit	Discrete sampling at specified depths ¹⁶	quarterly	¹⁷
Fecal coliform/E. coli	MPN or CFU/100mL	Discrete surface sample ¹⁹	quarterly	¹⁷
Ammonia	µg/L	Discrete surface sample ¹⁹	quarterly	¹⁷
Observations ²⁰	---	---	quarterly	---

- b. In the event of stormy weather that makes sampling hazardous or impractical, these samples can be omitted, provided that such omissions do not occur in consecutive weeks or in more than four weeks in a calendar year.
- c. If a kelp bed is present at any of the 23 harbor stations, sampling shall be conducted at the edge of the kelp bed. The actual locations of all sampling stations shall be reported in the monthly monitoring reports.
- d. Monthly-Quarterly depth profiling shall be conducted at the harbor stations on the same day, if practical.

2. Microbiological Monitoring

- a. Microbiological monitoring shall be conducted at CB-1 and CB-2 (shoreline stations, Figure E-2) as follows:

Table 4B. Bacteria Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total coliform ²¹	MPN or CFU/100 mL	Ankle-deep water	5 times/week	¹⁷

¹⁹ All Harbor bacteriological and ammonia samples shall be collected just below the surface within the first 0.5 meter.

²⁰ Receiving Water Observations of water color, turbidity, odor, and unusual or abnormal amounts of floating or suspended matter in the water or on the beach, rocks and jetties, or beach structures shall be made and recorded at stations. The character and extent of such matter shall be described. The dates, times and depths of sampling and these observations shall also be reported.

²¹ In addition to reporting the actual concentration of bacterial organisms in each sample collected from shoreline and harbor stations, the median of the latest 6-month period shall also be determined and reported. During a wet-weather event, stormwater runoff will impact inshore and offshore stations. The day of rain (0.1

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Enterococcus ²¹	MPN or CFU/100 mL	Ankle-deep water	5 times/week	¹⁷
Fecal coliform/E. coli ²¹	MPN or CFU/100 mL	Ankle-deep water	5 times/week	¹⁷
Observations ²²	---	---	5 times/week	---

In the event of stormy weather that makes sampling hazardous or impractical, these samples can be omitted, provided that such omissions do not occur more than 10 days in any calendar year.

- b. Microbiological monitoring shall be conducted at 7 stations (HW07, HW16, HW29, HW33, HW49, HW56, and HW64, Figure E-2) as follows:

Table 4C. Bacteria Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total coliform ²¹	MPN or CFU/100 mL	Surface ²³	5 times/ month	¹⁷
Enterococcus ²¹	MPN or CFU /100 mL	Surface ²³	5 times/ month	¹⁷
Fecal coliform/E. coli ²¹	MPN or CFU /100 mL	Surface ²³	5 times/ month	¹⁷
Observations ²⁴	---	---	5 times/ month	---

- c. Microbiological monitoring shall be conducted at 7 stations (HW 20, HW24, HW44, HW50, HW53, HW54, and HW62, Figure E-2) as follows:

Table 4D. Bacteria Receiving Water Monitoring Requirements

inch and greater) plus three following days worth of bacteriology data should be excluded from Single Sample and Geomean limits.

²² Observations at CB-1 and CB-2 consist of tallying items of sewage origin (plastic goods – feminine tampon applications, or rubber goods – rings from male condoms) and non-sewage origin (ocean debris, seaweed, refuse, tar, and dead marine organisms) along 1 50-foot reach of shoreline, centered around the station. Other observations at CB-1 and CB-2 include any unusual odors, particularly those that could be of sewage origin, the volume of flow from storm drains, change in water color due to plankton, and the presence of oil or tar. Additionally, at ~~S2CB-2~~, observations include water and air temperature, weather, and sea conditions. Harbor observations at HW07, HW16, HW29, HW33, HW49, HW56, and HW64 include water color, turbidity, presence of items of sewage and non-sewage origin, and weather. Daily rainfall data should be obtained from the National Weather Service for the Los Angeles Civic Center.

²³ All Harbor bacteriological samples shall be collected just below the surface within the first 0.5 meter.

²⁴ Receiving Water Observations of water color, turbidity, odor, and unusual or abnormal amounts of floating or suspended matter in the water or on the beach, rocks and jetties, or beach structures shall be made and recorded at stations. The character and extent of such matter shall be described. The dates, times and depths of sampling and these observations shall also be reported. Daily rainfall data should be obtained from the National Weather Service for the Los Angeles Civic Center.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Fecal coliform/E. coli ²¹	MPN or CFU /100 mL	Surface ²³	monthly	17
Observations ²⁴	---	---	monthly	---

In the event of stormy weather that makes sampling hazardous or impractical, these samples can be omitted, provided that such omissions do not occur in consecutive weeks or in more than four weeks in a calendar year.

If a kelp bed is present at any 17 harbor stations (Figure E-2), sampling shall be conducted at the edge of the kelp bed. The actual locations of all sampling stations shall be reported in the monthly monitoring reports.

If another stakeholder, or interested party in the watershed conducts a similar study or similar monitoring as that which is specified in this MRP, then the Discharger may, in lieu of duplicative sampling, submit the results of the study and other relevant information, such as raw data, related QA/QC documentation, etc., in the corresponding monitoring report.

3. Toxicity Monitoring

- a. Acute and chronic toxicity monitoring shall be conducted at 4 harbor stations (Figure E-3) as follows.

Table 4E. Toxic Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Acute Toxicity (HW23 and HW33)	% Survival	mid-depth	quarterly/ semiannually	N/A
Chronic Toxicity (HW24 and HW43)	TUc	mid-depth	quarterly/ semiannually	

- b. In the event of stormy weather that makes sampling hazardous or impractical, these samples can be omitted.
- c. If a kelp bed is present at any of the 4 harbor stations (Figure E-3), sampling shall be conducted at the edge of the kelp bed. The actual locations of all sampling stations shall be reported in the monitoring reports.
- d. Toxicity monitoring and the other monitoring shall be conducted at the harbor stations on the same day, if practical.

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- e. If the first 2-year data do not show any exceedances, then the sample frequency will be reduced from quarterly to semiannually. In case of any exceedances, the sample frequency shall be immediately resumed to quarterly, until 2-year data no longer show any exceedances.

B. Harbor Bottom Monitoring

1. Sediment/Chemical Monitoring

One sample (upper two centimeters) shall be collected at 11 harbor stations (HM2 to HM4 and HM6 to HM13, Figure E-4) with a VanVeen sediment grab and analyzed for the following parameters:

- a. Annual samples during the 3rd quarter (July, August, and September) - arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, zinc, cyanide, phenolic compounds (chlorinated), phenolic compounds (non-chlorinated), total halogenated organic compounds, aldrin and dieldrin, endrin, HCH, chlordane, total DDT, DDT derivatives²⁵, total PCB, PCB derivatives²⁶, toxaphene, total PAH, PAH derivatives²⁷, detected priority pollutants²⁸, compounds on the local 303(d) list, dissolved sulfides (pore water), TOC and grain size (sufficiently detailed to calculate percent weight in relation to phi size).

If a kelp bed is present at any of the 11 harbor stations (Figure E-4), sampling shall be conducted at the edge of the kelp bed. The actual locations of all sampling stations shall be reported in the monitoring reports.

2. Local Benthic Survey

This survey addresses the question: "Are benthic conditions under the influence of the discharge changing over time?" The data collected are used for regular assessment of trends in sediment contamination and biological response along a fixed grid of sites within the influence of the discharge.

- a. Eleven harbor stations (HM2 to HM4 and HM6 to HM13, Figure E-4) shall be sampled annually during the 3rd quarter (July, August, and September) for benthic monitoring following protocol described in the most current edition of the Field Operations Manual for Marine Water-Column, Benthic and ~~trawl~~-Trawl Monitoring in southern California. One sample shall be

²⁵ At a minimum, 4,4' DDT, 2,4'-DDT, 4,4'-DDE, 2,4'-DDE, 4,4'-DDD and 2,4'-DDD.

²⁶ At a minimum, chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

²⁷ At a minimum acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene, and pyrene.

²⁸ Detected priority pollutants are those previously measured in detectable concentrations in effluent, sludge, sediment and tissue analyses. A tentative list of detected priority pollutants shall be submitted to the Executive Officer for approval prior to conducting the priority pollutant analyses.

taken at each station for benthic infauna for community analyses by means of a 0.1 m² (1.1 ft²) modified VanVeen sediment grab sampler. The entire contents of each sample shall be passed through a 1.0-mm screen to retrieve the benthic organisms.

- b. The following determinations shall be made for each station, where appropriate: identification of all organisms to lowest possible taxon; community structure analysis for each station²⁹; mean, range standard deviation, and 95% confidence limits, if appropriate, for value determined in the community analysis. The discharger may be required to conduct additional “statistical analyses” to determine temporal and spatial trends in the marine environment.

If a kelp bed is present at any of the 11 harbor stations (Figure E-4), sampling shall be conducted at the edge of the kelp bed. The actual locations of all sampling stations shall be reported in the monitoring reports.

3. Local Demersal Fish and Invertebrate Survey

This survey addresses the question: “Is the health of demersal fish and epibenthic invertebrate communities in the vicinity of the discharge changing over time?” The data collected are used for regular assessment of temporal trends in community structure along an array of sites within the influence of the discharge. Data will also be collected on trash and debris to contribute to the Santa Monica Bay Restoration Project’s Sources and Loadings Program.

- a. Six trawling stations (HT5, HT7, HT9, HT10, HT12, and HT13, Figure E-5) shall be sampled biannually in the 3rd quarter (July, August, and September) and the 1st quarter (January, February, and March) for demersal fish and epibenthic invertebrates following protocol described in the most current edition of the Field Operations Manual for Marine Water-Column, Benthic and Trawl Monitoring in Southern California. Trawling shall be conducted at each station with a standard 7.62-meter head rope otter trawl (1.5-inch mesh in the body at the net and 0.5-inch mesh in the cod end), towed parallel to the specified depth contour for a duration of 5 minutes (elapsed bottom time) at a uniform speed approximately 2.0 knots.
- b. Fish and invertebrates collected by trawls shall be identified to the lowest possible taxon. Fish shall be size-classed³⁰. Wet-weight biomass shall be estimated for all species. Community structure analyses shall be

²⁹ Community analysis of benthic infauna shall include number of species, number of individuals per species, total numerical abundance per station, benthic response index (BRI) and biological or other appropriate indices, plus utilize appropriate regression analyses, parametric and nonparametric statistics, and multivariate techniques or other appropriate analytical techniques.

³⁰ An attempt should be made to size-class all fish. For the rare occasions when size classing is not possible (e.g., a huge catch of a single species), a subsample of several hundred fish should be measured. When this occurs, the reason should be noted on the data sheet.

conducted for each station³¹. Abnormalities and disease symptoms shall be described and recorded (e.g. Fin erosion, lesions, tumors, parasites and color abnormalities).

4. Local Bioaccumulation Trends Survey

This survey addresses the question: "Is fish tissue contamination in the vicinity of the outfall changing over time?" The data collected are used for regular assessment of temporal trends in white croaker (*Genyonemus lineatus*) tissue.

- a. Muscle and liver tissue analyses for selected priority pollutants and lipids shall be conducted annually on white croaker. Ten individuals³² shall be collected by divers with spear guns or by hand, hook and line, or trawl, from the vicinity of the TITWRP discharge area.
- b. Each individual muscle tissue sample shall be analyzed separately. Liver tissue samples from each site may be combined to form two composites representing five individuals each or each individual liver tissue may be analyzed separately.
- c. Tissue samples from white croaker shall be analyzed for the following priority pollutants and other parameters: total DDT, DDT derivatives²⁵, total PCB, PCB derivatives²⁶, wet weight, and % lipid.

5. Local Seafood Safety Survey

This survey addresses the question: "Are seafood tissue concentrations below levels that will ensure public safety?"

- a. Muscle tissue analyses for selected priority pollutants and lipids shall be conducted annually on a sport fish other than white croaker. Ten individuals³¹⁺³³ shall be collected by divers with spear guns or by hand, hook and line, or trawl, from within the Outer Harbor.
- b. Each individual muscle tissue sample shall be analyzed separately.

³¹ Including wet weight of fish and invertebrate species (all individuals of a species should be collectively weighted to the nearest 0.1Kg), number of species, number of individuals per species, total numerical abundance per station, number of individuals in each 1-centimeter size class for each species of fish, species of richness, species diversity (e.g., ~~Sjammppm~~Shannon-Wiener), species evenness and dominance, similarity analysis (e.g., Bray-Curtis, ~~Jaequard~~Jaccard, or Sorenson) cluster analyses or other appropriate multivariate statistical techniques approved by the Executive Officer. Mean, standard, deviation, and 95% confidence limits, if appropriate, shall be calculated for these values.

³² The ten largest individuals of each fish species collected shall be analyzed. All white croaker shall be larger than 125 millimeters (standard length). Standard length, weight, and gonadal index shall be recorded.

³³ The ten largest individuals of each fish species collected shall be analyzed. All sport fish shall be larger than 125 millimeters (standard length). Standard length, weight, and gonadal index shall be recorded.

- c. Tissue samples from the sport fish shall be analyzed for the following priority pollutants and other parameters: total DDT, DDT derivatives²⁵, total PCB, PCB derivatives²⁶, wet weight, and % lipid.”

C. Outfall Monitoring

The outfall shall be inspected a minimum of once every five years. Inspections shall include general observations and photographic records of the outfall pipes and surrounding ocean bottom. A detailed structural analysis of the pipes shall be conducted using underwater television/videotape and ~~submarine~~ visual inspection, where appropriate, to provide a comprehensive, report on the discharge pipe system ~~form-from~~ shallow water to its respective terminus.

Additional parameters for analysis may be added to this list by the Executive Officer.

IX. OTHER MONITORING REQUIREMENTS

A. Regional Monitoring

The goals of the Watershed-wide Monitoring Program for the Dominguez Channel – Los Angeles/Long Beach Watershed Management Area are to:

- Determine compliance with receiving water limits;
- Monitor trends in surface water quality;
- Ensure protection of beneficial uses;
- Provide data for modeling contaminants of concern;
- Characterize water quality including seasonal variation of surface waters within the watershed;
- Assess the health of the biological community; and,
- Determine mixing dynamics of effluent and receiving waters in the estuary.

Regional monitoring may include benthic surveys, demersal fish and invertebrate surveys, and predator risk surveys, but may add or delete surveys as directed by the Steering Committee.

1. Regional Benthic Survey

- a. This regional survey addresses the questions: 1) “What is the extent, distribution, magnitude and trend of ecological change in soft-bottom benthic habitats within the Southern California Bight?”; and 2) “What is

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the relationship between biological response and contaminant exposure?”
The data collected will be used to assess the condition of the sea-floor environment and the health of the biological communities in the Bight.

- b. Sampling Design - A regional survey of benthic conditions within the Southern California Bight took place in 2008 (Bight’08). The final survey design was determined cooperatively by participants represented on the Regional Steering Committee. The Discharger provided support to the Bight’08 benthic survey by participating in or performing the following activities:

Participation on the Steering Committee
Participation on relevant Technical Committees (e.g., Information Management, Field Methods & Logistics, Benthos, and Chemistry)
Field sampling at sea
Infaunal sample analysis
Sediment chemistry analysis
Data management

This level of participation was consistent with that provided by the Discharger during the 2008 Regional Benthic Survey. The next regional survey is expected to take place in 2013.

2. Regional Demersal Fish and Invertebrate Survey

- a. This regional survey addresses the questions: 1) “What is the extent, distribution, magnitude and trend of ecological change in demersal fish and epibenthic invertebrate communities within the Southern California Bight?” and 2) “What is the relationship between biological response and contaminant exposure?” The data collected will be used to assess the condition of the sea-floor environment and health of biological resources in the Bight.
- b. Sampling Design - A regional survey of trawl-caught demersal fish and epibenthic invertebrates within the Southern California Bight took place in 2008 (Bight’08). The final survey design was determined cooperatively by the participants as represented in the Regional Steering Committee. The Discharger provided support to the Bight’08 survey by participating in or performing the following activities:

Participation on the Steering Committee
Participation on relevant Technical Committees (e.g., Information Management, Field Methods & Logistics, Fish & Invertebrates)
Field sampling at sea
Tissue chemical analysis
Data management

This level of participation was consistent with that provided by the Discharger to the 2008 Regional Benthic Survey. The next regional survey is expected to occur in 2013.

3. Regional Seafood Safety Survey

- a. This regional survey addresses the question: “Are seafood tissue levels within the Southern California Bight below levels that ensure public safety?” The data collected will be used to assess levels of contaminants in the edible tissue of commercial or recreationally important fish within the Bight relative to Advisory Tissue Concentrations.
- b. Sampling Design - A regional survey of edible tissue contaminant levels in fish within the Southern California Bight shall be conducted at least once every ten years, encompassing a broader set of sampling sites and target species than those addressed in the local seafood survey. The objective is to determine whether any unexpected increases or decreases in contaminant levels have occurred in non-target species and/or at unsampled sites. The final survey design may be determined cooperatively by participants represented on a Regional Steering Committee or by the State of California’s Office of Environmental Health and Hazard Assessment. The Discharger shall provide support to a Regional Seafood Safety Survey by participating in or performing the following activities:

Participation on a Steering Committee

Participation on relevant Technical Committees (e.g., Information Management, Field Methods & Logistics, and Chemistry)

Field sampling at sea

Tissue chemical analysis

Data management

The Discharger’s participation shall be consistent with that provided by the Discharger to similar regional bioaccumulation surveys.

4. Regional Predator Risk Survey

- a. This regional survey addresses the question: “Are fish body burdens within the Southern California Bight a health risk to higher trophic levels in the marine food web?” The data collected will be used to estimate health risk to marine birds, mammals and wildlife from the consumption of fish tissue.
- b. Sampling Design - A regional survey of whole fish body burdens of contaminants within the Southern California Bight took place in 2008 (Bight’08). The final survey design was determined cooperatively by participants represented on the Regional Steering Committee. The Discharger provided support to the Bight’08 Predator Risk Survey by participating in or performing the following activities:

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Participation on the Steering Committee
Participation on relevant Technical Committees (e.g., Information Management, Field Methods & Logistics, and Chemistry)
Field sampling at sea
Tissue chemical analysis

This level of participation was consistent with that provided by the Discharger to the 2008 Regional Predator Risk Survey. The next regional survey is expected to occur until in 2013.

B. Tertiary Filter Treatment Bypasses

1. During any day that filters are bypassed, the City shall monitor the effluent for BOD, suspended solids, settleable solids, and oil and grease, on daily basis, until it is demonstrated that the filter “bypass” has not caused an adverse impact on the receiving water.
2. The City shall maintain chronological log of tertiary filter treatment process bypasses, to include the following:
 - a. Date and time of bypass start and end;
 - b. Total duration time; and,
 - c. Estimated total volume bypassed
3. The City shall notify Regional Board staff by telephone within 24 hours of the filter bypass event.
4. The City shall submit a written report to the Regional Board, according to the corresponding monthly self monitoring report schedule. The report shall include, at a minimum, the information from the chronological log. Results from the daily effluent monitoring, required by B.1. above, shall be submitted to the Regional Board as the results become available.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. If there is no discharge during any reporting period, the report shall so state.
3. Each monitoring report shall contain a separate section titled “Summary of Non-Compliance” which discusses the compliance record and the corrective actions

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taken or planned that may be needed to bring the discharge into full compliance with waste discharge requirements. This section shall clearly list all non-compliance with discharge requirements, as well as all excursions of effluent limitations.

4. The Discharger shall inform the Regional Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through VIII. The Discharger shall submit monthly, quarterly, semiannual, annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order (other than for process/operational control, startup, research, or equipment testing), the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table 5. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	Submit with monthly SMR
Daily	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	Submit with monthly SMR
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1 st day of calendar month through last day of calendar month	By the 15 th day of the third month after the month of sampling
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 to March 31 April 1 to June 30 July 1 to September 30	June 15 September 15 December 15

REVISED TENTATIVE

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
		October 1 to December 31	March 15
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 to June 30 July 1 to December 31	September 15 March 15
Annually	January 1 following (or on) permit effective date	January 1 to December 31	April 15
<u>Annually (Recycling Water Program)</u>			<u>July 1</u>
<u>Biannually (CECs)</u>	<u>January 1, 2011</u>	<u>1st half of calendar year</u>	<u>December 31</u>

4. Reporting Protocols. The Discharger shall report with each sample result the applicable reported Minimum-Level (RML) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- Sample results greater than or equal to the reported ML-RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ ~~as well as the words "Estimated Concentration" (may be shortened to "Est. Conc.")~~. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
- Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. The Discharger shall submit SMRs in accordance with the following requirements:

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- a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.
- b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.
- c. SMRs must be submitted to the Regional Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below: (Reference the reports to Compliance File No. 2171 to facilitate routing to the appropriate staff and file.)

California Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013
Attention: Information Technology Unit

C. Discharge Monitoring Reports (DMRs)

1. As described in Section IX.B.1 above, at any time during the term of this permit, the State or Regional Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.
2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

STANDARD MAIL	FEDEX/UPS/ OTHER PRIVATE CARRIERS
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15 th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

D. Other Reports

1. Annual Summary Report

By April 15 of each year, the Discharger shall submit an annual report containing a discussion of the previous year's influent/effluent analytical results and receiving water bacterial monitoring data. The annual report shall contain graphical and tabular summaries of the monitoring analytical data. The annual report shall also contain an overview of any plans for upgrades to the treatment plant's collection system, the treatment processes, or the outfall system. The Discharger shall submit a hard copy annual report to the Regional Board in accordance with the requirements described in subsection B.5 above.

Each annual monitoring report shall contain a separate section titled "Reasonable Potential Analysis" which discusses whether or not reasonable potential was triggered for pollutants which do not have a final effluent limitation in the NPDES permit. This section shall contain the following statement: "The analytical results for this sampling period did/ did not trigger reasonable potential." If reasonable potential was triggered, then the following information should also be provided:

- a. A list of the pollutant(s) that triggered reasonable potential;
- b. The Basin Plan or CTR criteria that was exceeded for each given pollutant;
- c. The concentration of the pollutant(s);
- d. The test method used to analyze the sample; and,
- e. The date and time of sample collection.

2. Receiving Water Monitoring Biennial Assessment Report

A detailed Receiving Water Monitoring Biennial Assessment Report of the data collected during the two previous calendar sampling years (January-December) shall be prepared and submitted so that it is received by the Regional Board and USEPA Region IX by August 1 of every other year. This report shall include an annual data summary and shall also include an in-depth analysis of the biological and chemical data following recommendations in "Design of 301(h) Monitoring Programs for Municipal Wastewater Discharges to Marine Water" (EPA, November 1982; 430/982-010; pages 74-91) and the Model Monitoring Program guidance document (Schiff, K.C., J.S. Brown and S.B. Weisberg. 2001. *Model Monitoring Program for Large Ocean Dischargers in*

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Southern California. SCCWRP Tech. Rep #357. Southern California Coastal Water Research Project, Westminster, CA. 101 pp.). Data shall be tabulated, summarized, and graphed where appropriate, analyzed, interpreted, and generally presented in such a way as to facilitate ready understanding of its significance. Spatial and temporal trends shall be examined and compared. The relation of physical and chemical parameters to biological parameters shall be evaluated. See, also, Section VII. of this Monitoring and Reporting Program. All receiving water monitoring data shall be submitted in accordance with the data submittal formats developed for the Southern California Bight Regional Monitoring Surveys.

The first assessment report shall be due August 1, 2010, and cover the sampling periods of January-December 2008 and January-December 2009. Subsequent reports shall be due August 1, 2012, and August 1, 2014, to cover sampling periods of January 2010-December 2011 and January 2012-December 2013, respectively.

3. The Discharger shall submit to the Regional Board, together with the first monitoring report required by this permit, a list of all chemicals and proprietary additives which could affect this waste discharge, including quantities of each. Any subsequent changes in types and/or quantities shall be reported promptly.
4. The Regional Board requires the Discharger to file with the Regional Board, within 90 days after the effective date of this Order, a technical report on his preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. The technical report should:
 - a. Identify the possible sources of accidental loss, untreated waste bypass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks, and pipes should be considered.
 - b. Evaluate the effectiveness of present facilities and procedures and state when they become operational.
 - c. Describe facilities and procedures needed for effective preventive and contingency plans.
 - d. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule contingent interim and final dates when they will be constructed, implemented, or operational.
5. The Regional Board requires the City to submit a progress report of current and future planning for the Advanced Water Treatment Facility every year by December 1 to this Regional Board. The first progress report shall be received by this Regional Board by December 1, 2010.

ATTACHMENT F – FACT SHEET

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Attachment F – Fact Sheet

As described in section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table 1. Facility Information

WDID	4B190106005
Discharger	City of Los Angeles
Name of Facility	Terminal Island Treatment Water Reclamation Plant
Facility Address	445 Ferry Street
	San Pedro, California 90731-7493
	Los Angeles County
Facility Contact, Title and Phone	Douglas Bohlmann, Plant Manager, (310)-732-4705
Authorized Person to Sign and Submit Reports	Douglas Bohlmann Enrique Zaldivar , (310)-732-4705 (213)-485-2210
Mailing Address	445 Ferry Street, San Pedro, California 90731-7493
Billing Address	SAME
Type of Facility	Publicly-Owned Treatment Works
Major or Minor Facility	Major
Threat to Water Quality	1
Complexity	A
Pretreatment Program	Y
Reclamation Requirements	Producer
Facility Permitted Flow	30 million gallons per day
Facility Design Flow	30 million gallons per day
Watershed	Dominguez Channel – Los Angeles/Long Beach Watershed Management Area
Receiving Water	Los Angeles Outer Harbor
Receiving Water Type	Enclosed bay

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- A. The City of Los Angeles (hereinafter Discharger) is the owner and operator of the Terminal Island Treatment Water Reclamation Plant (hereinafter TI~~T~~WRP, Plant, or Facility), a Publicly-Owned Treatment Works (POTW).

For the purposes of this Order, references to the “Discharger” or “Permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

- B. The Facility discharges wastewater to the Los Angeles Outer Harbor (Harbor), a water of the United States, and is currently regulated by Order Nos. R4-2005-0024¹ and R4-2008-0082², which were adopted on April 7, 2005 and October 2, 2008, respectively, and expired on March 10, 2010. The terms and conditions of the current Orders have been administratively continued and remain in effect until new Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order.
- C. The Discharger filed a report of waste discharge submitted an application, dated September 3, 2009, for renewal of its WDRs and NPDES permit. The application was received on September 8, 2009. A site visit was conducted on January 29, 2010, to observe operations and collect additional data to develop permit limitations and conditions.

II. FACILITY DESCRIPTION

The Discharger owns and operates the TI~~T~~WRP, a tertiary wastewater treatment plant located at 445 Ferry Street, San Pedro, California, approximately 20 miles south of downtown Los Angeles. Attachment B shows the location of the Plant. The TI~~T~~WRP currently receives wastewater from San Pedro, Wilmington, and Harbor City areas. The wastewater is a mixture of domestic, commercial, and industrial wastewater³ that is pre-treated pursuant to 40 CFR Part 403. The TI~~T~~WRP has a design capacity of 30 mgd and serves an estimated population of 130,000 people.

The TI~~T~~WRP has two bypass points: one for primary effluent and the other for secondary effluent. The primary effluent bypass point is operated by a valve and has never been used since it was put in service in 1977. The secondary bypass has been used several times since the filter facility was put into service in January 1997. The secondary effluent

¹ Order No. R4-2005-0024 was adopted by this Regional Board on April 7, 2005. This Order was revised with some modifications, which were adopted by this Regional Board on June 21, 2005 and September 28, 2005.

² On September 6, 2007, the City submitted background concentration study results for the Los Angeles Harbor, and requested of a reopening of TI~~T~~WRP's NPDES Order No. R4-2005-0024 to include dilution credit for ammonia, MBAS, copper, lead, mercury, and silver. The results indicate that the application of a dilution credit of 61 for these constituents is appropriate. On October 2, 2008, this Regional Board adopted Order No. R4-2008-0082, which amended Order No. R4-2005-0024. Order No. R4-2008-0082 endorsed the dilution credit of 61 to the final effluent limitations of total ammonia, MBAS, copper, lead, mercury, and silver, which interim limits were also simultaneously removed from Order No. R4-2005-0024.

³ Industrial wastewater sources are from the fish processing industries, petroleum industries, and docking and storage facilities.

can be automatically overflowed to the filtered effluent discharge channel if the filter influent pumps are inoperable or overloaded. The latest unfiltered secondary effluent discharged into the Harbor was on August 26, 2004.

A. Description of Wastewater and Biosolids Treatment or Controls

Treatment at the TITWRP consists of wastewater processing, advanced wastewater treatment processing, and biosolids processing. Attachment B depicts the schematics of the TITWRP wastewater flow.

1. Wastewater Processing - consists of preliminary treatment (bar screening and aerated grit removal), primary treatment (primary sedimentation), secondary treatment (secondary clarification and activated sludge biological treatment), tertiary treatment (effluent filtration). Under normal operating conditions, the discharge of the tertiary-treated effluent to the Harbor is not chlorinated.
 - a. Preliminary treatment – The main objective of preliminary treatment is to remove coarse solids (by bar screening), sand and silt (by grit removal system) from wastewater.
 - b. Primary sedimentation – The main objective of primary sedimentation is to remove solids from the wastewater by gravity. The heavier solids (settleable solids) precipitate out and are scraped out of the primary sedimentation basin. The lighter solids float to the top and are skimmed off. However, some solids remain in suspension.
 - c. Secondary clarification – The main objective of secondary sedimentation is to remove biological floc from the wastewater. Chemicals, such as aluminum sulfate (alum), may be added as part of the treatment process to enhance solids removal. Alum causes the biological floc to combine into larger clumps (coagulate). This makes it easier to remove the floc.
 - d. Activated sludge biological treatment – Activated sludge converts non-settleable and dissolved organic contaminants into biological floc, which can then be removed from the wastewater with further treatment.
 - e. Tertiary treatment – The filtration process is used to remove or reduce suspended or colloidal matter from a liquid stream, by passing the water through a bed of graded granular material. Filters remove the solids that the secondary sedimentation process did not remove, thus, improving the disinfection efficiency and reliability.
2. Advanced Wastewater Treatment Facility (AWTF) Processing – includes microfiltration, reverse osmosis and disinfection.
 - a. Microfiltration – Tertiary treated wastewater is fed into automatic self cleaning 500-micron strainers and then the wastewater flow is split into two parallel trains. Each train contains five parallel Memcor microfiltration

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units. The microfiltration units are periodically backwashed to clean the membranes. The backwash is sent back to TITWRP's headworks for reprocessing. ~~The microfiltration water is reclaimed for irrigation, industrial, and recreational use in accordance with other Water Recycling Requirements.~~

- b. Reverse Osmosis (RO) – The microfiltration filtrate is fed into two separate RO process trains. Each RO process train has two stages in series and use thin-filmed membranes. The RO water is chlorinated prior to being transported for two projects under separate Water Recycling Requirements. ~~contained in Order No. R4-2003-0134, adopted on October 2, 2003.~~ The Harbor Water Recycling Project (HWRP) – Dominguez Gap Barrier Project (Order No. R4-2003-0134), adopted on October 2, 2003, was permitted to inject up to 5⁴ mgd recycled water to Dominguez Gap Barrier (Barrier) to prevent seawater intrusion. The RO water is injected into the Dominguez Gap Barrier to control seawater intrusion. This discharge is located at Latitude 33° 44' 34" and Longitude 118° 15' 36". In addition, the RO water is reclaimed for irrigation, industrial, and recreational use in accordance with other Water Recycling Requirements contained in Order No. R4-2003-0025 for the HWRP – Nonpotable Reuse Project, adopted on January 30, 2003.
- c. Disinfection – A sodium hypochlorite (chlorine) contact basin has been designed to provide a contact time (CT) value of 450 mg/L-min with a modal contact time of at least 150 minutes for a flow of 5 mgd RO treated water.

The brine waste stream generated from the AWTF is allowed to be discharged into the Harbor. Sodium bisulfate is added to neutralize any chlorine added to the brine waste prior to discharge to the Los Angeles Harbor.

3. Biosolids Processing –

- a. Land Application – Approximately 40 to 50 wet tons of sludge per day were thickened, anaerobically digested, and dewatered, which produced approximately 10 dry tons of sludge daily that was hauled to the City's Green Acres Farm located at Kern County for land application.
- b. Renewable Energy Project – Under the Terminal Island Renewable Energy (TIRE) Project⁵, biosolids are injected into the ground below the

⁴ To implement Regional Board Resolution No. 94-009, the City has been constructing the HWRP in 3 phases with the ultimate goal of treating 30 mgd effluent and producing 22.5 mgd recycled water for reuse in the Barrier and other applications. Five, 12, and 22.5 mgd present the proposed quantity of recycled water to be produced for 3 different phases, respectively.

⁵ See Section II.E.2 of Fact Sheet for detailed information.

Plant. Since the start up of the TIRE project, most of wet sludge produced at the TITWRP is currently injected.

B. Discharge Point and Receiving Waters

1. Pursuant to Provision 4.c. of Resolution No. 94-009, and to accommodate the Port of Los Angeles' expansion project (2020 Plan) which deepens and widens the main channels of the Los Angeles Harbor, Discharge Serial No. 001 of the TITWRP effluent discharge location during the construction was modified three times and extended to 900 feet beyond the shoreline near Pier 400 and to a depth of 32 feet. The Outfall flow in the old 60-inch pipe was diverted to the modified/extended 72-inch pipe on July 10, 1996. The new discharge point is through an 800-foot, multi-port diffuser consisting of 100, 4-inch ports to improve initial dilution of the discharge, which begins at Latitude 33° 43' 27.3" and Longitude 118° 14' 40.2" and ends at Latitude 33° 43' 19.6" and Longitude 118° 14' 36.2". The original discharge point was at located Latitude 33° 44' 14" and Longitude 118° 15' 33".
2. The receiving water for the TITWRP discharge is a part of the Harbor of the Regional Board -designated Dominguez Channel – Los Angeles/Long Beach Watershed Management Area (WMA) and a part of Dominguez Channel Watershed. The Los Angeles Harbor has been defined as an enclosed bay listed in *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan)*.
3. The Los Angeles Harbor is located in the southern portion of the Los Angeles Basin. Along the northern portion of San Pedro Bay is a natural embayment formed by a westerly extension of the coastline. It contains the Los Angeles Harbor, with the Palos Verdes Hills the dominant onshore feature. Historically, the area consisted of marshes and mudflats with a large marshy area, Dominguez Slough, to the north, and flow from the Los Angeles River entering where Dominguez Channel now drains.
4. Several locations in the Harbors, including the Long Beach Outer Harbor, have been listed as impaired or sites of concern under the Bay Protection and Toxic Cleanup Program (BPTCP) due to benthic community effects, DDT, PCBs (sediments and tissue), PAHs (sediment), sediment toxicity (not recurrent), and metals (zinc in tissue samples; zinc, lead, and copper in sediments). Two areas within the Harbor are considered to be toxic hot spots under the BPTCP: Dominguez Channel/Consolidated Slip, based on sediment concentrations of DDT, PCBs, cadmium, copper, lead, mercury, zinc, dieldrin, chlordane (all exceed sediment quality guidelines), sediment toxicity, and degraded benthic infaunal community; and Cabrillo Pier area, based on sediment concentrations of DDT, PCBs and copper, sediment toxicity and issuance of a human health (fishing) advisory for DDT and PCBs in white croaker, and exceedances of National Academy of Science guidelines for DDT in fish and shellfish. More

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detailed information of pollutants in the receiving water of the Los Angeles Harbor is available in Section III.D. of this Fact Sheet.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

- Monitoring data between June 01, 2005 and January 31, 2009 were collected at the old effluent sampling station, which only collected the tertiary-treated wastewater. Monitoring data collected after January 31, 2009 were from the newly constructed effluent sampling station (EFF-001), which sampled the combined flow of the tertiary-treated wastewater and brine waste generated at AWTF. Effluent limitations contained in the existing Orders (R4-2005-0024 and R4-2008-0082) for discharges from Discharge Point 001 (Monitoring Location EFF-001) and representative monitoring data collected between February 1, 2009 and December 31, 2009 are as follows:

Table 2. Historic Effluent Limitations and Monitoring Data at EFF-001

Parameter	Units	Effluent Limitation			Monitoring Data ⁶ (From 02/01/2009 To 12/31/2009)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge ^{7, 8}	Highest Daily Discharge
Turbidity	NTU	--	--	2 ⁹	0.85	--	1.90
Temperature	°F	--	--	100	85.2	--	87.4
pH	pH	--	--	6.5 – 8.5 ¹⁰	7.7	--	8.2
BOD ₅ 20°C	mg/L	15	30	40	2	--	17
Suspended Solids	mg/L	15	30	40	3.48	--	5.00
Oil and Grease	mg/L	10	--	15	3.0	--	3.0
Settleable Solids	ml/L	0.1	--	0.3	< 0.03	--	0.08
Residual Chlorine	mg/L	--	--	0.1	< 0.02	--	< 0.1
MBAS	mg/L	31	--	--	0.61	--	0.61
CTAS	mg/L	--	--	--	0.31	--	0.31
Dissolved Oxygen	mg/L	--	--	--	7.95	--	8.30
Nitrite-N (as N)	mg/L	--	--	--	< 0.02	--	< 0.02
Nitrate + Nitrite as N	mg/L	--	--	--	13.9	--	13.9

⁶ “<” means a Non Detect (ND) value, and is represented by the laboratory’s MDLs.

⁷ The highest average weekly discharge concentration is reported for constituents that are monitored at weekly or more frequent intervals.

⁸ Weekly averages are calculated as a calendar week average.

⁹ A daily average of 2 Nephelometric turbidity units (NTUs); and (b) 5 NTUs more than 5 percent of the time (72 minutes) during any 24 hour period.

¹⁰ The values are instantaneous.

REVISITED TENTATIVE

Parameter	Units	Effluent Limitation			Monitoring Data ⁶ (From 02/01/2009 To 12/31/2009)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge ^{7, 8}	Highest Daily Discharge
Total Ammonia	mg/L	44	--	290	1.1	--	1.1
Organic Nitrogen	mg/L	--	--	--	5.1	--	5.1
Total Nitrogen	mg/L	--	--	--	17.1	--	17.1
Antimony	µg/L	--	--	--	0.82	--	0.82
Arsenic	µg/L	--	--	--	4.23	--	4.23
Beryllium	µg/L	--	--	--	< 0.2	--	< 0.2
Cadmium	µg/L	--	--	--	< 0.4	--	< 0.4
Chromium III	µg/L	--	--	--	0.8	--	0.8
Chromium VI	µg/L	--	--	--	< 0.5	--	< 0.5
Copper	µg/L	91	--	210	13	--	13
Lead	µg/L	270	--	830	< 3	--	< 3
Mercury	µg/L	2.1	--	3.7	0.005	--	0.005
Nickel	µg/L	120	--	250	6.4	--	6.4
Selenium	µg/L	--	--	--	13.8	--	13.8
Silver	µg/L	47	--	120	0.14	--	0.14
Thallium	µg/L	--	--	--	0.02	--	0.02
Zinc	µg/L	--	--	--	26	--	26
Cyanide	µg/L	0.50	--	1.0	< 0.004	--	< 0.004
Asbestos	µg/L	--	--	--	--	--	--
2,3,7,8-TCDD (Dioxin)	µg/L	--	--	--	< 1.42E-10	--	< 1.42E-10
Acrolein	µg/L	--	--	--	< 1.24	--	< 1.24
Acrylonitrile	µg/L	--	--	--	< 0.96	--	< 0.96
Benzene	µg/L	--	--	--	< 0.11	--	< 0.11
Bromoform	µg/L	--	--	--	0.37	--	0.37
Carbon Tetrachloride	µg/L	--	--	--	< 0.34	--	< 0.34
Chlorobenzene	µg/L	--	--	--	< 0.15	--	< 0.15
Dibromochloromethane	µg/L	--	--	--	7.63	--	7.63
Chloroethane	µg/L	--	--	--	< 0.31	--	< 0.31
2-chloroethyl vinyl ether	µg/L	--	--	--	< 0.54	--	< 0.54
Chloroform	µg/L	--	--	--	2.13	--	2.13
Dichlorobromomethane	µg/L	--	--	--	0.35	--	0.35

REVISED TENTATIVE

Parameter	Units	Effluent Limitation			Monitoring Data ⁶ (From 02/01/2009 To 12/31/2009)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge ^{7, 8}	Highest Daily Discharge
1,1-dichloroethane	µg/L	--	--	--	< 0.16	--	< 0.16
1,2-dichloroethane	µg/L	--	--	--	< 0.09	--	< 0.09
1,1-dichloroethylene	µg/L	--	--	--	< 0.2	--	< 0.2
1,2-dichloropropane	µg/L	--	--	--	< 0.16	--	< 0.16
1,3-dichloropropylene	µg/L	--	--	--	< 0.1	--	< 0.1
Ethylbenzene	µg/L	--	--	--	0.2	--	0.2
Methyl bromide	µg/L	--	--	--	< 1.02	--	< 1.02
Methyl chloride	µg/L	--	--	--	< 0.15	--	< 0.15
Methylene chloride	µg/L	--	--	--	0.8	--	0.8
1,1,2,2-tetrachloroethane	µg/L	--	--	--	< 0.19	--	< 0.19
Tetrachloroethylene	µg/L	--	--	--	0.71	--	0.71
Toluene	µg/L	--	--	--	< 0.09	--	1.6
Trans 1,2-Dichloroethylene	µg/L	--	--	--	< 0.21	--	< 0.21
1,1,1-Trichloroethane	µg/L	--	--	--	< 0.29	--	< 0.29
1,1,2-Trichloroethane	µg/L	--	--	--	< 0.2	--	< 0.2
Trichloroethylene	µg/L	--	--	--	0.18	--	0.18
Vinyl Chloride	µg/L	--	--	--	< 0.25	--	< 0.25
2-chlorophenol	µg/L	--	--	--	< 0.09	--	< 0.09
2,4-dichlorophenol	µg/L	--	--	--	< 0.09	--	< 0.09
2,4-dimethylphenol	µg/L	--	--	--	< 0.17	--	< 0.17
2-methyl-4,6-Dinitrophenol	µg/L	--	--	--	< 0.4	--	< 0.4
2,4-dinitrophenol	µg/L	--	--	--	< 0.21	--	< 0.21
2-nitrophenol	µg/L	--	--	--	< 0.09	--	< 0.09
4-nitrophenol	µg/L	--	--	--	< 0.06	--	< 0.06
3-Methyl-4-Chlorophenol (P-chloro-m-resol)	µg/L	--	--	--	< 0.18	--	< 0.18
Pentachlorophenol	µg/L	--	--	--	< 0.4	--	< 0.4
Phenol	µg/L	--	--	--	< 0.4	--	< 0.4
2,4,6-trichlorophenol	µg/L	--	--	--	< 0.09	--	< 0.09
Acenaphthene	µg/L	--	--	--	< 0.13	--	< 0.13
Acenaphthylene	µg/L	--	--	--	< 0.13	--	< 0.13

REVISED TENTATIVE

Parameter	Units	Effluent Limitation			Monitoring Data ⁶ (From 02/01/2009 To 12/31/2009)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge ^{7, 8}	Highest Daily Discharge
Anthracene	µg/L	--	--	--	< 0.11	--	< 0.11
Benzidine	µg/L	--	--	--	< 5	--	< 5
Benzo(a)Anthracene	µg/L	--	--	--	< 0.14	--	< 0.14
Benzo(a)Pyrene	µg/L	--	--	--	< 0.13	--	< 0.13
Benzo(b)Fluoranthene	µg/L	--	--	--	< 0.14	--	< 0.14
Benzo(ghi)Perylene	µg/L	--	--	--	< 0.03	--	< 0.03
Benzo(k)Fluoranthene	µg/L	--	--	--	< 0.11	--	< 0.11
Bis(2-Chloroethoxy) methane	µg/L	--	--	--	< 0.05	--	< 0.05
Bis(2-Chloroethyl)Ether	µg/L	--	--	--	< 0.09	--	< 0.09
Bis(2-Chloroisopropyl) Ether	µg/L	--	--	--	< 0.05	--	< 0.05
Bis(2-Ethylhexyl)Phthalate	µg/L	190	--	560	1.0	--	1.0
4-Bromophenyl Phenyl Ether	µg/L	--	--	--	< 0.07	--	< 0.07
Butylbenzyl Phthalate	µg/L	--	--	--	< 0.04	--	< 0.04
2-Chloronaphthalene	µg/L	--	--	--	< 0.07	--	< 0.07
4-Chlorophenyl Phenyl Ether	µg/L	--	--	--	< 0.04	--	< 0.04
Chrysene	µg/L	--	--	--	< 0.12	--	< 0.12
Dibenzo(a,h)Anthracene	µg/L	--	--	--	0.02	--	0.02
1,2-Dichlorobenzene	µg/L	--	--	--	< 0.06	--	< 0.06
1,3-Dichlorobenzene	µg/L	--	--	--	< 0.05	--	< 0.05
1,4-Dichlorobenzene	µg/L	--	--	--	< 0.07	--	< 0.07
3-3'-Dichlorobenzidine	µg/L	--	--	--	< 0.11	--	< 0.11
Diethyl Phthalate	µg/L	--	--	--	< 0.06	--	< 0.06
Dimethyl Phthalate	µg/L	--	--	--	< 0.27	--	< 0.27
Di-n-Butyl Phthalate	µg/L	--	--	--	< 0.5	--	< 0.5
2-4-Dinitrotoluene	µg/L	--	--	--	< 0.08	--	< 0.08
2-6-Dinitrotoluene	µg/L	--	--	--	< 0.022	--	< 0.022
Di-n-Octyl Phthalate	µg/L	--	--	--	< 0.05	--	< 0.05
1,2-Diphenylhydrazine	µg/L	--	--	--	< 0.06	--	< 0.06
Fluoranthene	µg/L	--	--	--	< 0.02	--	< 0.02
Fluorene	µg/L	--	--	--	< 0.02	--	< 0.02
Hexachlorobenzene	µg/L	--	--	--	< 0.07	--	< 0.07

REVISED TENTATIVE

REVISED TENTATIVE

Parameter	Units	Effluent Limitation			Monitoring Data ⁶ (From 02/01/2009 To 12/31/2009)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge ^{7, 8}	Highest Daily Discharge
Hexachlorobutadiene	µg/L	--	--	--	< 0.07	--	< 0.07
Hexachlorocyclopentadiene	µg/L	--	--	--	< 2.9	--	< 2.9
Hexachloroethane	µg/L	--	--	--	< 0.07	--	< 0.07
Indeno(1,2,3-cd)Pyrene	µg/L	--	--	--	< 0.02	--	< 0.02
Isophorone	µg/L	--	--	--	< 0.07	--	< 0.07
Naphthalene	µg/L	--	--	--	< 0.13	--	< 0.13
Nitrobenzene	µg/L	--	--	--	< 0.05	--	< 0.05
N-Nitrosodimethylamine	µg/L	--	--	--	< 0.17	--	< 0.17
N-Nitrosodi-n-Propylamine	µg/L	--	--	--	< 0.13	--	< 0.13
N-Nitrosodiphenylamine	µg/L	--	--	--	< 0.09	--	< 0.09
Phenanthrene	µg/L	--	--	--	< 0.01	--	< 0.01
Pyrene	µg/L	--	--	--	< 0.02	--	< 0.02
1,2,4-Trichlorobenzene	µg/L	--	--	--	< 0.08	--	< 0.08
Aldrin	µg/L	--	--	--	< 0.003	--	< 0.003
Alpha-BHC	µg/L	--	--	--	< 0.003	--	< 0.003
Beta-BHC	µg/L	--	--	--	< 0.003	--	< 0.003
Gamma-BHC (Lindane)	µg/L	--	--	--	< 0.003	--	< 0.003
delta-BHC	µg/L	--	--	--	< 0.003	--	< 0.003
Chlordane	µg/L	--	--	--	< 0.07	--	< 0.07
4,4'-DDT	µg/L	--	--	--	< 0.003	--	< 0.003
4,4'-DDE	µg/L	--	--	--	< 0.004	--	< 0.004
4,4'-DDD	µg/L	--	--	--	< 0.004	--	< 0.004
Dieldrin	µg/L	0.00014	--	0.00028	< 0.005	--	< 0.005
Alpha-Endosulfan	µg/L	--	--	--	< 0.008	--	< 0.008
Beta-Endosulfan	µg/L	--	--	--	< 0.007	--	< 0.007
Endosulfan Sulfate	µg/L	--	--	--	< 0.003	--	< 0.003
Endrin	µg/L	--	--	--	< 0.005	--	< 0.005
Endrin Aldehyde	µg/L	--	--	--	< 0.002	--	< 0.002
Heptachlor	µg/L	--	--	--	< 0.003	--	< 0.003
Heptachlor Epoxide	µg/L	--	--	--	< 0.003	--	< 0.003
PCB 1016	µg/L	--	--	--	< 0.03	--	< 0.03

Parameter	Units	Effluent Limitation			Monitoring Data ⁶ (From 02/01/2009 To 12/31/2009)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge ^{7, 8}	Highest Daily Discharge
PCB 1221	µg/L	--	--	--	< 0.49	--	< 0.49
PCB 1232	µg/L	--	--	--	< 0.1	--	< 0.1
PCB 1242	µg/L	--	--	--	< 0.2	--	< 0.2
PCB 1248	µg/L	--	--	--	< 0.1	--	< 0.1
PCB 1254	µg/L	--	--	--	< 0.04	--	< 0.04
PCB 1260	µg/L	--	--	--	< 0.07	--	< 0.07
Toxaphene	µg/L	--	--	--	< 0.01	--	< 0.1
Demeton	µg/L	--	--	--	< 0.063	--	< 0.063
Guthion	µg/L	--	--	--	< 0.12	--	< 0.12
Malathion	µg/L	--	--	--	< 0.11	--	< 0.11
Methoxychlor	µg/L	--	--	--	< 0.003	--	< 0.003
Mirex	µg/L	--	--	--	< 0.004	--	< 0.004
Parathion	µg/L	--	--	--	< 0.12	--	< 0.12
Gross alpha	pCi/L	--	--	15	< 3.25	--	< 3.25
Gross beta	pCi/L	--	--	50	< 29.4	--	< 29.4
Combined radium 226 & 228	pCi/L	--	--	5	--	--	--
Tritium	pCi/L	--	--	20,000	--	--	--
Strontium	pCi/L	--	--	8	--	--	--
Uranium	pCi/L	--	--	20	--	--	--

REVISED TENTATIVE

D. Compliance Summary

The following table lists the Terminal Island Treatment-Water Reclamation Plant's violations of subdivisions (h) and (i) of California Water Code section 13385, from June 1, 2005 through November 30, 2009. Lead mandatory minimum penalty has been issued to the City of Los Angeles by the Regional Board. For additional information about the alleged violations listed in the table, please refer to the SWRCB Public Reports webpage http://www.waterboards.ca.gov/water_issues/programs/ciwqs/publicreports.shtml; choose the "MMP Report" link located under the "Enforcement Reports" category. Once in the Public Reports search page, enter the search criteria that correspond to the Terminal Island Treatment-Water Reclamation Plant to access the list of violations. The Terminal Island Treatment-Water Reclamation Plant did not have violations in 2005, 2006, and 2008.

Table 3. List of Violations

Violation ID	Occurred Date	MMP Action	Violation Description
688363	28-Feb-07	Taken	Lead effluent violation: 14.8 µg/L > 8.6 µg/L, monthly average
829485	20-Apr-09	Pending	Turbidity effluent violation: 6 NTU for 263 minutes > 5 NTU 72 minutes within 24 hours
844597	04-Aug-09	Pending	Copper effluent violation: 3.2 µg/L > 2.1 µg/L, monthly average
850251	01-Sep-09	Pending	MBAS effluent violation: 0.61 mg/L > 0.5 mg/L, monthly average

E. Planned Changes

- Section VI.2. of Monitoring and Reporting Program CI-2171, adopted by this Regional Board on April 7, 2005, requested that the City of Los Angeles shall construct a new effluent sampling station at the Terminal Island Treatment Water Reclamation Plant, which captures tertiary treated effluent as well as brine waste discharged from the Advanced Water Treatment Facility. In December 2006, the City constructed a new effluent sampling station replacing the old effluent sampling station, which only captures tertiary treated effluent. This newly effluent sampling station was completed in August 2007. In the months of March and April 2008, the City did comparison study tests between the old sampling station and the new proposed combined sampling station. Parameters compositely sampled and analyzed were Suspended solids, pH, BOD, Ammonia Nitrogen and Turbidity. Regional Board staff conducted a jointed NPDES site inspection with the USEPA contractors on October 20, 2008 and found that the new effluent sampling station at the Terminal Island Treatment Water Reclamation Plant is representative of the effluent quality of all discharge points.
- In 2008, the City and Terralog Technologies started the experimental TIRE project at the Terminal Island Wastewater Plant. TIRE is an innovative technology to convert biosolids into energy by deep well injection and geothermal biodegradation. The US EPA permitted the project as an experimental technology. TIRE's permit allows for maximum injection capacity of four hundred wet tons per day of biosolids. One injection and one monitoring wells were drilled and completed in weakly consolidated, high permeability, sand formations at depths from 3,800 to 5,300 ft. The construction of the injection well and the existing observation well was completed on July, 2007 and project start up date was July 2, 2008. One addition monitoring well is under construction and will be approximately completed in March 2010. The biosolids are injected into soft, high porosity, formation sands, using technology optimized for slurry injection, for a period of 5 years. Currently, the City is injecting all of the Plant's biosolids up to 50 wet tons a day at the TIRE injection facility. It is projected that up to 150 wet tons per day (19,300 dry tons per year)

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of biosolids from the City's Hyperion Treatment Plant could be brought on site for injection in future.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Quality Control Board (Regional Board) adopted a Water Quality Control Plan for the Los Angeles Region (hereinafter Basin Plan) on June 13, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the receiving waters as follows:

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Table 4. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Outer Harbor (Hydro. Unit No. 405.12)	<u>Existing:</u> Navigation; water contact and non contact recreation; commercial; marine habitat; threatened or endangered species <u>Potential:</u> shellfish harvesting
	Marinas (Hydro. Unit No. 405.12)	<u>Existing:</u> Industry water supply; navigation; water contact and non contact recreation; commercial; marine habitat; threatened or endangered species, <u>Potential:</u> shellfish harvesting
	Public Beach Area (Hydro. Unit No. 405.12)	<u>Existing:</u> Navigation; water contact and non contact recreation; commercial; marine habitat; wildlife habitat; threatened or endangered species; shellfish harvesting <u>Potential:</u> Spawning, reproduction, and/or early development
	All Other Inner Areas (Hydro. Unit No. 405.12)	<u>Existing:</u> Industry water supply; navigation, non contact recreation, commercial; marine habitat; threatened or endangered species ¹¹ <u>Potential:</u> water contact recreation; shellfish harvesting
	Dominguez Channel Estuary ^{12, 13} (Hydro. Unit No. 405.12)	<u>Existing:</u> water contact and non contact recreation, commercial; estuary habitat; marine habitat; wildlife habitat; threatened or endangered species ¹¹ ; migration of aquatic organisms ¹⁴ ; spawning, reproduction, and/or early development ¹⁴ <u>Potential:</u> navigation
	Los Angeles River Estuary ^{11, 12} (Hydro. Unit No. 405.12)	<u>Existing:</u> Industry water supply; navigation; water contact and non contact recreation; commercial; estuary habitat; marine habitat; wildlife habitat; threatened or endangered species ¹¹ ; migration of aquatic organisms ¹⁴ ; spawning, reproduction, and/or early development ¹⁴ ; wetland habitat <u>Potential:</u> shellfish harvesting

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- ¹¹ One or more rare species utilizes all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.
- ¹² Coastal waterbodies are also listed in Inland Surface Waters Table (2-1) or in Wetlands Table (2-4) of the Basin Plan.
- ¹³ These areas are engineered channels. All references to Tidal Prisms in Regional Board documents are functionally equivalent to estuaries.
- ¹⁴ Aquatic organisms utilize all bays, estuaries, lagoons and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas, which are heavily influenced by freshwater inputs.

Requirements of this Order implement the Basin Plan and subsequent amendments.

The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life, in Tables 3-1 through Tables 3-4. However, those ammonia objectives were revised, based upon freshwater¹⁵ and saltwater¹⁵ criteria. The final effluent limitations for ammonia prescribed in this Order are based on the revised ammonia criteria (Resolution No. 2007-005) and apply at the end of pipe.

- a. **Freshwater Ammonia Water Objective** – On April 25, 2002, the Regional Water Board adopted the Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The ammonia Basin Plan amendment was approved by the State Board, the Office of Administrative Law, and USEPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively. Although the revised ammonia water quality objectives may be less stringent than those contained in the 1994 Basin Plan, they are still protective of aquatic life and are consistent with USEPA's 1999 ammonia criteria update.
- b. **Saltwater Ammonia Water Objective** – On March 4, 2004, the Regional Board adopted the Resolution No. 2004-022, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters Not ~~Chrematistic~~-Characteristic of Freshwater (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The ammonia Basin Plan amendment is consistent with the U.S. EPA "Ambient Water Quality Criteria for Ammonia (Saltwater)-1989." The amendment revised the regulatory provisions of the Basin Plan by adding language to Chapter 3 "Water Quality Objectives." The saltwater ammonia Basin Plan amendment was approved by the State Board, the Office of Administrative Law, and USEPA on July 22, 2004, September 14, 2004, and May 19, 2005, respectively.

For inland surface waters not characteristic of freshwater (including enclosed bays, estuaries, and wetlands), the proposed-adopted objectives are a 4-day average concentration of unionized ammonia of 0.035 mg/L, and a one-hour average concentration of unionized ammonia of 0.233 mg/L. The proposed adopted objectives are fixed concentrations of unionized ammonia, independent of pH, temperature, or salinity. The proposed-amendment includes an implementation procedure to convert un-ionized ammonia objectives to total

¹⁵ The effluent limits were derived based on the salinity of the receiving waters. The CTR specifies that fresh water criteria apply at locations where the salinity is 1 part per thousand (ppt) or less 95% or more of the time, and marine water criteria apply at locations where the salinity is 10 ppt or more 95% or more of the time.

ammonia effluent limits. The ~~proposed~~ amendment also simplifies the implementation procedures for translating ammonia objectives into effluent limits in situations where a mixing zone has been authorized by the Regional Board. Finally, the ~~proposed~~ amendment revises the implementation procedure for determining saltwater, brackish¹⁵ or freshwater conditions, to be consistent with the ~~proposed~~ objectives. The ~~proposed~~ objectives will apply only to inland surface waters not characteristic of freshwater (including enclosed bays, estuaries and wetlands) and do not impact the Ammonia Water Quality Objectives for ocean waters contained in the California Ocean Plan.

Based on the beneficial uses of the Basin Plan and salinity data of 33 to 35 ppt collected in the Harbor (HW23, HW24, HW33, and HW43) from Years 2006 to 2009, the receiving water in the Harbor is definitely a marine water. The freshwater ammonia water objective is not applicable in the Harbor. Therefore, the saltwater ammonia water objectives will be used to calculate the final ammonia effluent limitations for the Facility (See Tables F2, F3, F4, and Section IV.C.2.b..vii. of the Fact Sheet).

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.
3. **State Implementation Policy.** On March 2, 2000, the State Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 C.F.R. § 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

5. **Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Board established California's antidegradation policy in State Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of section 131.12 and State Board Resolution No. 68-16.
6. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations¹⁶ section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. All conventional and most non-conventional pollutants effluent limitations in the Order are at least as stringent as the effluent limitations in the previous Order. Most of the priority pollutants from the previous Order were deleted because they did not show reasonable potential to be in the effluent water. Specifically, new information on effluent and receiving monitoring data indicated that the following pollutants has no reasonable potential~~;~~: gross alpha, gross beta, radium 226 & 228, tritium, strontium, uranium, lead, mercury, nickel, silver, cyanide, bis(2-ethylhexyl)phthalate, and dieldrin. As discussed in this Fact Sheet, this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

D. Impaired Water Bodies on CWA 303(d) List

On October 25, 2006, the State Board adopted a revised 303(d) list. The 2006 303(d) list was partially approved by the USEPA on November 30, 2006. However, on March 8, 2007, USEPA partially disapproved the State's 303(d) list, by disapproving the State's omission of impaired waters that met federal listing regulations or guidance. USEPA added additional water bodies and additional pollutants for waters already list by the State. On June 28, 2007, USEPA transmitted the final approved 2004-2006 Section 303(d) list, which serves as the State's most recent list of impaired waterbodies. The list (hereinafter referred to as the 303(d) list) was prepared in accordance with Section 303(d) of the Federal Clean Water Act to identify specific impaired waterbodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources.

¹⁶ All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

The Los Angeles Harbor and nearby locations are on the 303(d) list. The following pollutants/ stressors, from point and non-point sources, were identified as impacting the receiving waters:

1. Los Angeles Harbor – Cabrillo Marina, Hydrologic Unit No. 405.12
Source Unknown – DDT¹⁷ and PCBs¹⁷
2. Los Angeles Harbor – Consolidated Slip, Hydrologic Unit No. 405.12
Nonpoint Source – benthic community effects¹⁷, cadmium (sediment)¹⁷, chlordane (tissue and sediment)¹⁷, chromium (sediment)¹⁷, copper (sediment)¹⁷, DDT (tissue, sediment, and fish consumption advisory)¹⁷, dieldrin¹⁷, lead (sediment)¹⁷, mercury (sediment)¹⁷, PCBs (tissue, sediment, and fish consumption advisory)¹⁷, sediment toxicity¹⁷, toxaphene (tissue)¹⁷, and zinc (sediment)¹⁷
Source Unknown – 2-methylnaphthalene¹⁷, benzo(a)pyrene (PAHs)¹⁷, benzo(a)anthracene¹⁷, chrysene (C1-C4)¹⁷, phenanthrene¹⁷, and pyrene¹⁷
3. Los Angeles Harbor – Fish Harbor, Hydrologic Unit No. 405.18
Nonpoint Source – DDT¹⁷, PAHs¹⁷, PCBs¹⁷
Source Unknown – benzo(a)pyrene (PAHs)¹⁷, benzo(a)anthracene¹⁷, chlordane¹⁷, chrysene (C1-C4)¹⁷, copper¹⁷, dibenzo(a,h)anthracene¹⁷, lead¹⁷, mercury¹⁷, phenanthrene¹⁷, pyrene¹⁷, sediment toxicity¹⁷, and zinc¹⁷
4. Los Angeles Harbor – Inner Cabrillo Beach Area, Hydrologic Unit No. 405.12
Nonpoint Source – DDT (fish consumption advisory)¹⁷, PCBs (fish consumption advisory)¹⁷
Source Unknown – copper¹⁷, and indicator bacteria¹⁸
5. Los Angeles River Estuary – Queensway Bay, Hydrologic Unit No. 405.12
Nonpoint Source – chlordane (sediment)¹⁷, DDT (sediment)¹⁷, lead (sediment)¹⁷, PCBs (sediment)¹⁷, and zinc (sediment)¹⁷
Source Unknown – sediment toxicity¹⁷, and trash¹⁷
6. Los Angeles/Long Beach Outer Harbor – inside breakwater, Hydrologic Unit No. 405.12

¹⁷ TMDL Requirement Status of A = Those requiring TMDLs

¹⁸ TMDL Requirement Status of B = Being addressed by USEPA approved TMDLs

Nonpoint Source – DDT¹⁷, and PCBs¹⁷

Source Unknown – sediment toxicity¹⁷

7. Los Angeles/Long Beach Inner Harbor, Hydrologic Unit No. 405.18

Nonpoint/Point Source – beach closures¹⁷, DDT¹⁷, PCBs¹⁷, and sediment toxicity¹⁷

Nonpoint Source – benthic community effects¹⁶

Source Unknown – copper¹⁷, and zinc¹⁷

8. Dominguez Channel Estuary – Unlined Portion below Vermont Ave, Hydrologic Unit No. 405.12

Nonpoint/Point Source – ammonia¹⁷, benthic community effects¹⁷, chlordane (tissue)¹⁷, coliform bacteria¹⁷, DDT (tissue and sediment)¹⁷, dieldrin (tissue)¹⁷, lead (tissue)¹⁷, and zinc (sediment)¹⁷

Source Unknown – benzo(a)pyrene (PAHs)¹⁷, benzo(a)anthracene¹⁷, chrysene (C1-C4)¹⁷, PCBs¹⁷, phenanthrene¹⁷, and pyrene¹⁷

E. Other Plans, Policies and Regulations

- ~~1. **Sources of Drinking Water Policy.** On May 19, 1988, the State Board adopted Resolution No. 88-63, *Sources of Drinking Water (SODW) Policy*, which established a policy that all surface and ground waters, with limited exemptions, are suitable or potentially suitable for municipal and domestic supply. To be consistent with State Board's SODW policy, on March 27, 1989, the Regional Board adopted Resolution No. 89-03, *Incorporation of Sources of Drinking Water Policy into the Water Quality Control Plans (Basin Plans) – Santa Clara River Basin (4A)/ Los Angeles River Basin (4B)*.~~

~~Consistent with Regional Board Resolution No. 89-03 and State Board Resolution No. 88-63, in 1994 the Regional Board conditionally designated all inland surface waters in Table 2-1 of the 1994 Basin Plan as existing, intermittent, or potential for Municipal and Domestic Supply (MUN). However, the conditional designation in the 1994 Basin Plan included the following implementation provision: "no new effluent limitations will be placed in Waste Discharge Requirements as a result of these [potential MUN designations made pursuant to the SODW policy and the Regional Board's enabling resolution] until the Regional Board adopts [a special Basin Plan Amendment that incorporates a detailed review of the waters in the Region that should be exempted from the potential MUN designations arising from SODW policy and the Regional Board's enabling resolution]." On February 15, 2002, the USEPA clarified its partial approval (May 26, 2000) of the 1994 Basin Plan amendments and acknowledged that the conditional designations do not currently have a~~

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~~legal effect, do not reflect new water quality standards subject to USEPA review, and do not support new effluent limitations based on the conditional designations stemming from the SODW Policy until a subsequent review by the Regional Board finalizes the designations for these waters. This permit is designed to be consistent with the existing Basin Plan.~~

- 21. Secondary Treatment Regulations.** Section 133 of 40 CFR establishes the minimum levels of effluent quality to be achieved by secondary treatment. These limitations, established by USEPA, are incorporated into this Order, except where more stringent limitations are required by other applicable plans, policies, or regulations or to prevent backsliding.

- 32. Storm Water.** CWA section 402(p), as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges. Pursuant to this requirement, in 1990, USEPA promulgated 40 CFR, Section 122.26 that established requirements for storm water discharges under an NPDES program. To facilitate compliance with federal regulations, on November 1991, the State Board issued a statewide general permit, *General NPDES Permit No. CAS000001 and Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities*. This permit was amended in September 1992 and reissued on April 17, 1997 in State Board Order No. 97-03-DWQ to regulate storm water discharges associated with industrial activity.

General NPDES permit No. CAS000001 is applicable to storm water discharges from the TITWRP's premises. The City collects storm water runoff at the TITWRP and directs it to a lift station where it is pumped to the facility headworks for treatment. On July 22, 1993, the City filed a Notice of Intent to comply with the requirements of the general permit. The City developed and currently implements a Storm Water Pollution Prevention Plan (SWPPP), to comply with the State Board's (Order No. 97-03-DWQ).

- 43. Sanitary Sewer Overflows.** The Clean Water Act prohibits the discharge of pollutants from point sources to surface waters of the United States unless authorized under an NPDES permit. (33 U.S.C. §§1311, 1342). The State Board adopted Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems, Water Quality Order No. 2006-0003 on May 2, 2006, to provide a consistent, statewide regulatory framework to address Sanitary Sewer Overflows (SSOs). The WDR requires public agencies that own or operate sanitary sewer systems to develop and implement sewer system management plans and report all SSOs to the State Board's online SSO database.

The requirements contained in this Order in Sections VI.C.3.b, VI.C.4, and VI.C.6. are intended to be consistent with the requirements in the SSO WDR. The Regional Board recognizes that there are areas of overlapping interest between the NPDES permit conditions and the SSO WDR requirements. The requirements of the SSO WDR are considered the minimum thresholds (see Finding 11 of WQ Order NO. 2006-0003). The Regional Board will accept the

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documentation prepared by the Permittee under the SSO WDR for compliance purposes, as satisfying the requirements in Sections VI.C.3.b, VI.C.4, and VI.C.6, provided for any more specific or stringent provisions enumerated in this Order, have also been addressed.

54. **Watershed Management** - This Regional Board has been implementing a Watershed Management Approach (WMA) to address water quality protection in the Los Angeles Region following the USEPA guidance in *Watershed Protection: A Project Focus* (EPA841-R-95-003, August 1995). The objective of the WMA is to provide a more comprehensive and integrated strategy resulting in water resource protection, enhancement, and restoration while balancing economic and environmental impacts within a hydrologically-defined drainage basin or watershed. The WMA emphasizes cooperative relationships between regulatory agencies, the regulated community, environmental groups, and other stakeholders in the watershed to achieve the greatest environmental improvements with the resources available. This Order and the accompanying *Monitoring and Reporting Program* (Attachment E) fosters implementation of this approach. The *Monitoring and Reporting Program* requires the Discharger to participate in regional water quality monitoring programs in the Southern California Bight.
65. **Relevant Total Maximum Daily Loads** - Section 303(d) of the Clean Water Act requires states to identify water bodies that do not meet water quality standards and then to establish TMDLs for each waterbody for each pollutant of concern. TMDLs identify the maximum amount of pollutants that can be discharged to waterbodies without causing violations of water quality standards.
76. **Sediment Quality Objectives (SQO)** - The SQO provides narrative sediment quality objectives protecting benthic communities from direct exposure to pollutants in sediments and minimizing human health risk from consumption of fish and shellfish tissue that may pose a risk as a result of contaminants in sediments. The SQO also includes a description of the applicable beneficial uses, a description of how the narrative objectives may be interpreted and the means by which these narrative objectives shall be applied to existing water quality protection plans.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

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A. Discharge Prohibitions

Effluent and receiving water limitations in this Board Order are based on the Federal Clean Water Act, Basin Plan, State Board's plans and policies, U. S. Environmental Protection Agency guidance and regulations, and best practicable waste treatment technology. This order authorizes the discharge of tertiary-treated wastewater and brine waste from Discharge Point 001 only. It does not authorize any other types of discharges.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Technology-based effluent limitations require a minimum level of treatment for industrial/municipal point sources based on currently available treatment technologies while allowing the discharger to use any available control techniques to meet the effluent limitations. The 1972 CWA required POTWs to meet performance requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level--referred to as "secondary treatment"--that all POTWs were required to meet by July 1, 1977. More specifically, Section 301(b)(1)(B) of the CWA required that EPA develop secondary treatment standards for POTWs as defined in Section 304(d)(1). Based on this statutory requirement, EPA developed national secondary treatment regulations which are specified in 40 CFR 133. These technology-based regulations apply to all POTWs and identify the minimum level of effluent quality to be attained by secondary treatment in terms of five-day biochemical oxygen demand, total suspended solids, and pH.

2. Applicable Technology-Based Effluent Limitations

This facility is subject to the technology-based regulations for the minimum level of effluent quality attainable by secondary treatment in terms of BOD₅20°C, TSS, and pH. However, all technology-based effluent limitations are from the previous Order No. R4-2005-0024 ~~are based on tertiary-treated wastewater treatment standards~~. These effluent limitations have been carried over from the previous Order to avoid backsliding. Further, mass-based effluent limitations are based on a design flow rate of 30 MGD. The following Table summarizes the technology-based effluent limitations applicable to the Plant:

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Summary of Technology-based Effluent Limitations Discharge Point No. 001

Table 5. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD ₅ 20°C	mg/L	15	30	40	--	--
	lbs/day ¹⁹	3,800	7,500	10,000	--	--
Total Suspended Solids (TSS)	mg/L	15	30	40	--	--
	lbs/day ¹⁹	3,800	7,500	10,000	--	--
pH	standard units	--	--	--	6.5	8.5
Removal Efficiency for BOD and TSS	%	85	--	--	--	--

However, this Plant is also subject to technology-based effluent limitations contained in similar NPDES permits, for similar plants/facilities, based on the treatment level achievable by tertiary-treated wastewater treatment systems. These effluent limitations are consistent with the State Board precedential decision, State Board Order No. WQ 2004-0010 for the City of Woodland.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements or other provisions, is discussed starting from Section IV.C.2.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard,

¹⁹ The mass emission rates are based on the combined plant design flow rate of 30 mgd, and are calculated as follows: Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. **Applicable Beneficial Uses and Water Quality Criteria and Objectives**

- a. The Basin Plan establishes the beneficial uses for surface water bodies in the Los Angeles region. The beneficial uses of the Los Angeles/Long Beach Harbor affected by the discharge have been described previously in this Fact Sheet.
- b. The Basin Plan also specifies narrative and numeric water quality objectives applicable to surface water as shown in the following discussions.

i. **Biochemical Oxygen Demand (BOD) and Suspended Solids**

Biochemical oxygen demand (BOD) is a measure of the quantity of the organic matter in the water and, therefore, the water's potential for becoming depleted in dissolved oxygen. As organic degradation takes place, bacteria and other decomposers use the oxygen in the water for respiration. Unless there is a steady resupply of oxygen to the system, the water will quickly become depleted of oxygen. Adequate dissolved oxygen levels are required to support aquatic life. Depressions of dissolved oxygen can lead to anaerobic conditions resulting in odors, or, in extreme cases, in fish kills.

40 CFR Part 133 describes the minimum level of effluent quality attainable by secondary treatment, for BOD and suspended solids, as:

- The 30-day average shall not exceed 30 mg/L, and
- The 7-day average shall not exceed 45 mg/L.

The TITWRP provides tertiary treatment, as such, the BOD and suspended solids limits in the permit are more stringent than secondary treatment requirements and are based on Best

Professional Judgment (BPJ). The TI~~T~~WRP achieves solids removal that are better than secondary-treated wastewater by adding a polymer (Alum) to enhance the precipitation of solids, and by filtering the effluent.

The monthly average, the 7-day average, and the daily maximum limits cannot be removed because none of the antibacksliding exceptions apply. Those limits were all included in the previous permit (Order R4-2005-0024) and the TI~~T~~WRP has been able to meet all three limits (monthly average, the 7-day average, and the daily maximum), for both BOD and suspended solids.

In addition to having mass-based and concentration-based effluent limitations for BOD and suspended solids, the TI~~T~~WRP also has a percent removal requirement for these two constituents. In accordance with 40 CFR sections 133.102(a)(3) and 133.102(b)(3), the 30-day average percent removal shall not be less than 85 percent. Percent removal is defined as a percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of the raw wastewater influent pollutant concentrations to the facility and the 30-day average values of the effluent pollutant concentrations for a given time period.

ii. **pH**

The hydrogen ion activity of water (pH) is measured on a logarithmic scale, ranging from 0 to 14. While the pH of “pure” water at 25°C is 7.0, the pH of natural waters is usually slightly basic-acidic due to the solubility of carbon dioxide from the atmosphere. Minor changes from natural conditions can harm aquatic life. In accordance with 40 CFR section 133.102(c), the effluent values for pH shall be maintained within the limits of 6.0 to 9.0 unless the POTW demonstrates that: (1) Inorganic chemicals are not added to the waste stream as part of the treatment process; and (2) contributions from industrial sources do not cause the pH of the effluent to be less than 6.0 or greater than 9.0. The effluent limitation for pH in this permit requiring that the wastes discharged shall at all times be within the range of 6.5 to 8.5 is taken from the Basin Plan (page 3-15) which reads “the pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharge.”

iii. **Settleable solids**

Excessive deposition of sediments can destroy spawning habitat, blanket benthic (bottom dwelling) organisms, and abrade the gills of larval fish. The limits for settleable solids are based on the Basin Plan (page 3-16) narrative, “Waters shall not contain suspended or

settleable material in concentrations that cause nuisance or adversely affect beneficial uses.” The numeric limits are empirically based on results obtained from the settleable solids 1-hour test, using an Imhoff cone.

It is impracticable to use a 7-day average limitation, because short-term spikes of settleable solid levels that would be permissible under a 7-day average scheme would not be adequately protective of all beneficial uses. The monthly average and the daily maximum limits cannot be removed because none of the antibacksliding exceptions apply. The monthly average and daily maximum limits were both included in the previous permit (Order R4-2005-0024) and the TITWRP has been able to meet both limits.

iv. **Oil and grease**

Oil and grease are not readily soluble in water and form a film on the water surface. Oily films can coat birds and aquatic organisms, impacting respiration and thermal regulation, and causing death. Oil and grease can also cause nuisance conditions (odors and taste), are aesthetically unpleasant, and can restrict a wide variety of beneficial uses. The limits for oil and grease are based on the Basin Plan (page 3-11) narrative, “Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses.”

The numeric limits are empirically based on concentrations at which an oily sheen becomes visible in water. It is impracticable to use a 7-day average limitation, because spikes that occur under a 7-day average scheme could cause a visible oil sheen. A 7-day average scheme would not be sufficiently protective of beneficial uses. The monthly average and the daily maximum limits cannot be removed because none of the antibacksliding exceptions apply. Both limits were included in the previous permit (Order R4-2005-0024) and the TITWRP has been able to meet both limits.

v. **Residual Chlorine**

Disinfection of wastewaters with chlorine produces a chlorine residual. Chlorine and its reaction products are toxic to aquatic life. The limit for residual chlorine is based on the Basin Plan (page 3-9) narrative, “Chlorine residual shall not be present in surface water discharges at concentrations that exceed 0.1 mg/L and shall not persist in receiving waters at any concentration that causes impairment of beneficial uses.”

It is impracticable to use a 7-day average or a 30-day average limitation, because it is not as protective as of beneficial uses as a daily

maximum limitation is. Chlorine is very toxic to aquatic life and short term exposures of chlorine may cause fish kills.

vi. **Methylene Blue Activated Substances (MBAS)**

The MBAS procedure tests for the presence of anionic surfactants (detergents) in surface waters. Surfactants disturb the water surface tension, which affects insects and can affect gills in aquatic life. The MBAS can also impart an unpleasant soapy taste to water, as well as cause scum and foaming in waters, which impact the aesthetic quality of surface waters.

The existing permit effluent limitation of 0.5 mg/l for MBAS was developed based on the Basin Plan incorporation of Title 22, Drinking Water Standards, by reference, to protect the surface water MUN beneficial use. Given the nature of the facility (a POTW) which accepts domestic wastewater into the sewer system and treatment plant, and the characteristics of the wastes discharged, the discharge has reasonable potential to exceed both the numeric MBAS water quality objective (WQO) and the narrative WQO for the prohibition of floating material such as foams and scums. In addition, surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use, based on the Basin Plan. Therefore an effluent limitation is required.

The 0.5 mg/L concentration (which has been determined to be protective of beneficial uses and the aesthetic quality of waters), is based on the Department of Health Services' secondary drinking water standard, and on the Basin Plan WQO (Page 3-11). The excess MBAS disturb the surface tension, which affects insects and can affect gills in aquatic life. Since the Reasonable Potential Analysis projects MBAS that may exceed the Basin Plan's MBAS WQO. Therefore, the secondary MCL should be the MBAS limit for this discharge to protect aquatic life, while also protecting surface waters from exhibiting scum or foaming.

Since the Basin Plan objective is based on a secondary drinking water standard, it is practicable to have a monthly average limitation in the permit.

Based on the RPA, MBAS has demonstrated a reasonable potential to exceed the water quality objective. The concentration of MBAS in the receiving water is less than the water quality objective, therefore, the dilution credit of 61 will be applied to MBAS. See Attachments K and N for detail.

vii. **Total ammonia**

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Ammonia is a pollutant routinely found in the wastewater effluent of Publicly Owned Treatment Works (POTWs), in landfill-leachate, as well as in run-off from agricultural fields where commercial fertilizers and animal manure are applied. Ammonia exists in two forms – un-ionized ammonia (NH_3) and the ammonium ion (NH_4^+). They are both toxic, but the neutral, un-ionized ammonia species (NH_3) is much more toxic, because it is able to diffuse across the epithelial membranes of aquatic organisms much more readily than the charged ammonium ion. The form of ammonia is primarily a function of pH, but it is also affected by temperature and other factors. Additional impacts can also occur as the oxidation of ammonia lowers the dissolved oxygen content of the water, further stressing aquatic organisms. ~~Oxidation of ammonia to nitrate may lead to groundwater impacts in areas of recharge. There is groundwater recharge in these reaches.~~ Ammonia also combines with chlorine (often both are present in POTW treated effluent discharges) to form chloramines – persistent toxic compounds that extend the effects of ammonia and chlorine downstream.

For inland surface waters not characteristic of freshwater (including enclosed bays, estuaries, and wetlands), the ~~proposed~~ objectives are a 4-day average concentration of unionized ammonia of 0.035 mg/L, and a one-hour average concentration of unionized ammonia of 0.233 mg/L. The ~~proposed~~ objectives are fixed concentrations of unionized ammonia, independent of pH, temperature, or salinity. The ~~proposed~~ amendment includes an implementation procedure to convert un-ionized ammonia objectives to total ammonia effluent limits. The ~~proposed~~ amendment also simplifies the implementation procedures for translating ammonia objectives into effluent limits in situations where a mixing zone has been authorized by the Regional Board. Finally, the ~~proposed~~ amendment revises the implementation procedure for determining saltwater, brackish or freshwater conditions, to be consistent with the ~~proposed~~ objectives. The ~~proposed~~ objectives will apply only to inland surface waters not characteristic of freshwater (including enclosed bays, estuaries and wetlands) and do not impact the Ammonia Water Quality Objectives for ocean waters contained in the California Ocean Plan

Calculation for Ammonia (See Attachments L, M, and N for detail)

Step 1: Find and calculate basic information

Number of samples = 11
Maximum effluent concentration(MEC) = 1.1 mg/L
Background concentration (B) = 0.01 mg/L
Dilution credit (D) = 61
CV = 0.5556 (See Table F2 for detail)
Multiplier_{acute} = 2.7064 (See Table F4 for detail)

Step 2: Project maximum effluent concentration (MEC_{projected})

$$\begin{aligned}\text{Project maximum effluent concentration} &= \text{MEC} \times \text{Multiplier}_{\text{acute}} \\ &= 1.1 \text{ mg/L} \times 2.7064 = 2.9771 \text{ mg/L}\end{aligned}$$

Step 3: Project maximum receiving water concentration (MRWC_{projected})

$$\text{MRWC}_{\text{projected}} = (\text{MEC}_{\text{projected}} + B \times D) / (D + 1) = (2.9771 \text{ mg/L} + 0.01 \text{ mg/L} \times 61) / (61 + 1) = 0.06 \text{ mg/L}$$

Step 4: Identify applicable water quality criteria

TIWRP discharges into the Los Angeles Outer Harbor, which is with respect to Saltwater Ammonia Objectives.

(i). Saltwater Ammonia Criteria Maximum Concentration (CMC)

$$\text{Total ammonia} = 0.233 + 0.233 \times 10^{(pK_a^S + 0.0324 \times (298 - T) + 0.0415 \times P/T - pH)}$$

Where: P = 1 atm
T = temperature (°K)
 $pK_a^S = 0.116 \times I + 9.245$, the stoichiometric acid hydrolysis constant of ammonium ions in saltwater on i, $i = 19.9273 \times S(1000 - 1.005109S)^{-1}$, the molar ionic strength of saltwater based on S, S = salinity

The calculated values of Saltwater Ammonia CMC are between 3.1514 mg/L and 22.5583 mg/L, which result from all temperature, pH, and salinity data input to the above formula. All temperature, pH, and salinity data were collected from the receiving water monitoring stations in 2009. See Table F-3 for detail.

(ii). Saltwater Ammonia Criteria Continuous Concentration (CCC)

$$\text{Total ammonia} = 0.035 + 0.035 \times 10^{(pK_a^S + 0.0324 \times (298 - T) + 0.0415 \times P/T - pH)}$$

Where: P = 1 atm
T = temperature (°K)
 $pK_a^S = 0.116 \times I + 9.245$, the stoichiometric acid hydrolysis constant of ammonium ions in saltwater on i, $i = 19.9273 \times S(1000 - 1.005109S)^{-1}$, the molar ionic strength of saltwater based on S, S = salinity

The calculated values of Saltwater Ammonia CCC are between 0.4734 mg/L and 3.3886 mg/L, which result from all temperature, pH, and salinity data input to the above formula. All temperature, pH, and salinity data were collected from the receiving water monitoring stations in 2009. See Attachment M for detail.

The most stringent values are chosen to calculate the ammonia effluent monthly average and daily maximum limitations in order to protect aquatic lives in the receiving water body.

Therefore, Saltwater Ammonia Criteria:
CMC = 3.1514 mg/L and,
CCC = 0.4734 mg/L

Step 5: Decide whether project maximum effluent concentration greater than CCC and project maximum receiving water concentration less than CCC

MEC_{projected} is 2.9771 mg/L, which is greater than 0.4734 mg/L and triggers RPA. In addition, MRWC_{projected} is 0.06 mg/L, which is less than 0.4734 mg/L. Therefore dilution credit of 61 is granted to final ammonia effluent limitations.

Step 6: Calculate final ammonia effluent limitations

Monthly average = $0.4734 \text{ mg/L} \times (61 + 1) = 29.3508 \text{ mg/L} \cong 29 \text{ mg/L}$
Daily Maximum = $3.1514 \text{ mg/L} \times (61 + 1) = 195.3868 \text{ mg/L} \cong 195 \text{ mg/L}$

ix. **Receiving Water Coliform/Bacteria Limitations**

- Geometric Mean Limits
 - Total coliform density shall not exceed 1,000/100 mL.
 - Fecal coliform density shall not exceed 200/100 mL.
 - Enterococcus density shall not exceed 35/100 ml.
- Single Sample Limits
 - Total coliform density shall not exceed 10,000/100 ml.
 - Fecal coliform density shall not exceed 400/100 mL.
 - Enterococcus density shall not exceed 104/100 ml.

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- Total coliform density shall not exceed 10,000/100 ml, if the ration of fecal total coliform exceeds 0.1.

These receiving water limitations are based on Resolution No. 01-018, Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Bacteria Objectives for Water Bodies Designated for Water Contact Recreation, adopted by the Regional Board on October 25, 2001. The Resolution was approved by State Board, OAL, and USEPA, on July 18, 2002, September 19, 2002, and September 25, 2002, respectively.

x. **Turbidity**

Turbidity is an expression of the optical property that causes light to be scattered in water due to particulate matter such as clay, silt, organic matter, and microscopic organisms. Turbidity can result in a variety of water quality impairments. The effluent limitation for turbidity which reads, "For the protection of the water contact recreation beneficial use, the wastes discharged to water courses shall have received adequate treatment, so that the turbidity of the wastewater does not exceed: (a) a daily average of 2 Nephelometric turbidity units (NTU); (b) 5 NTU more than 5 percent of the time (72 minutes) during any 24 hour period; and (c) 10 NTU at any time" is based on the Basin Plan (page 3-17) and Section 60301.320 of Title 22, Chapter 3, "Filtered Wastewater" of the California Code of Regulations. In comparison to other POTWs in this region, the turbidity limit for the TIWRP is consistent with those of POTWs, which have filtration as part of their treatment process. The limitation, therefore reflects what the technology (of choice by the Discharger) is designed to achieve. The turbidity effluent limitations are consistent with the State Water Board precedential decision, State Water Board Order No. WQ 2004-0010 for the City of Woodland.

xi. **Radioactivity**

Radioactive substances are generally present in natural waters in extremely low concentrations. Mining or industrial activities increase the amount of radioactive substances in waters to levels that are harmful to aquatic life, wildlife, or humans. Regional Board staff used Best Professional Judgments to establish radioactivity limits for the effluent using Maximum Contaminant Levels (MCLs) for the drinking water specified in Title 22, Chapter 15, Article 5, Sections 64442 and 64443, of the California Code of Regulations, or subsequent revisions. However, radioactive substances were not detected in the TIWRP effluent and thus there was no reasonable potential to establish effluent limitations for Gross alpha, Gross beta, Radium 226 & 228, Tritium, Strontium, and Uranium in the permit. This relaxation of

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effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

xii. **Temperature**

USEPA document, *Quality Criteria for Water 1986* [EPA 440/5-86-001, May 1, 1986], also referred to as the *Gold Book*, discusses temperature and its effects on beneficial uses, such as recreation and aquatic life.

- The Federal Water Pollution Control Administration in 1967 called temperature “a catalyst, a depressant, an activator, a restrictor, a stimulator, a controller, a killer, and one of the most important water quality characteristics to life in water.” The suitability of water for total body immersion is greatly affected by temperature. Depending on the amount of activity by the swimmer, comfortable temperatures range from 20 °C to 30 °C (68 °F to 86 °F).
- Temperature also affects the self-purification phenomenon in water bodies and therefore the aesthetic and sanitary qualities that exist. Increased temperatures accelerate the biodegradation of organic material both in the overlying water and in bottom deposits which makes increased demands on the dissolved oxygen resources of a given system. The typical situation is exacerbated by the fact that oxygen becomes less soluble as water temperature increases. Thus, greater demands are exerted on an increasingly scarce resource which may lead to total oxygen depletion and obnoxious septic conditions. Increased temperature may increase the odor of water because of the increased volatility of odor-causing compounds. Odor problems associated with plankton may also be aggravated.
- Temperature changes in water bodies can alter the existing aquatic community. Coutant (1972) has reviewed the effects of temperature on aquatic life reproduction and development. Reproductive elements are noted as perhaps the most thermally restricted of all life phases, assuming other factors are at or near optimum levels. Natural short-term temperature fluctuations appear to cause reduced reproduction of fish and invertebrates.

The Basin Plan lists temperature requirements for the receiving waters. Based on the requirements of the Basin Plan and a white paper developed by Regional Water Board staff entitled *Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and*

Enclosed Bays in the Los Angeles Region, a maximum effluent temperature limitation of 86 °F is included in the Order. The white paper evaluated the optimum temperatures for steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel. The new temperature effluent limitation is reflective of new information available that indicates that the 100°F temperature which was formerly used in permits was not protective of aquatic organisms. A survey was completed for several kinds of fish and the 86°F temperature was found to be protective. It is impracticable to use a 7-day average or a 30-day average limitation for temperature, because it is not as protective as of beneficial uses as a daily maximum limitation is. A daily maximum limit is necessary to protect aquatic life and is consistent with the fishable/swimmable goals of the CWA.

~~The Basin Plan lists temperature requirements for the receiving waters and references the Thermal Plan. Based on the requirements of the Thermal Plan and a white paper developed by Regional Water Board staff and comments previously received from staff of California Department of Fish and Game entitled *Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles Region*, a maximum effluent temperature limitation of 86 °F (except as a result of external ambient temperature) is included in the tentative Order. The temperature limit is consistent with the limits in other POTW permits in the region. The white paper evaluated the optimum temperatures for steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel. The new temperature effluent limitation is reflective of new information available that indicates that the 100°F temperature is not protective of aquatic organisms. A survey was completed for several kinds of fish and the 86°F temperature was found to be protective.~~

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c. **CTR and SIP**

The California Toxic Rule (CTR) and State Implementation Policy (SIP) specify numeric objectives for toxic substances and the procedures whereby these objectives are to be implemented. The procedures include those used to conduct reasonable potential analysis to determine the need for effluent limitations for priority and non-priority pollutants.

3. Determining the Need for WQBELs

In accordance with Section 1.3 of the SIP, the Regional Board conducted a reasonable potential analysis for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the permit. The Regional Board analyzed effluent data to determine if a pollutant in a discharge has a reasonable potential to cause or contribute to an excursion above a state water quality standard. For all parameters that demonstrate reasonable potential, numeric WQBELs are required. The RPA considers water quality

criteria from the CTR and NTR, and when applicable, water quality objectives specified in the Basin Plan. To conduct the RPA, the Regional Board staff identified the maximum effluent concentration (MEC) and maximum background concentration in the receiving water for each constituent, based on data provided by the Discharger. Data collected between February 2009 and December 2009 were used to calculate the final effluent limitations due to the requirement of a newly constructed monitoring effluent station (see Footnote No. 8 on the accompanying Limitations and discharge Requirements on Page 8 for details). However, many pollutants with quarterly monitoring frequency only have 3 data points, which don't have enough data size to run the RPA, therefore, the data collected between June 2005 and January 2009 for pollutants with quarterly monitoring frequency were also used to run the RPA and to decide their monitoring frequency. For the pollutants without RP and all non-detected, the effluent monitoring is kept at semiannual. For the pollutants without RP and with some detected, the effluent monitoring is kept at quarter.

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three triggers to complete a RPA:

Trigger 1 – If the MEC is greater than or equal to the CTR water quality criteria or applicable objective (C), a limitation is needed.

Trigger 2 – If background water quality (B) > C and the pollutant is detected in the effluent, a limitation is needed.

Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, then best professional judgment is used to determine that a limit is needed.

Sufficient effluent and ambient data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data for the Regional Board to conduct the RPA. Upon review of the data, and if the Regional Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

The RPA was performed for the priority pollutants regulated in the CTR for which data were available. Based on the RPA, pollutant that demonstrates reasonable potential are ammonia, MBAS, and copper. The concentrations of ammonia, MBAS, and copper in the receiving water are less than the water quality objectives, therefore, the dilution credits of 61 are granted to these three constituents. The following Table summarizes results from RPA.

Table 7. Summary of Reasonable Potential Analysis at 001

REVISED TENTATIVE

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L	RPA Result - Need Limitation ?	Reason
1	Antimony	4300	0.82	N/A	No	C>MEC
2	Arsenic	36	4.23	N/A	No	C>MEC
3	Beryllium	Narrative	<0.2	N/A	No	C>MEC
4	Cadmium	9.4	<0.4	N/A	No	C>MEC
5a	Chromium III	Narrative	0.8	N/A	No	C>MEC
5b	Chromium VI	50	<0.5	N/A	No	C>MEC
6	Copper	3.7	13	1.8	Yes	MEC>C
7	Lead	8.5	3	0.74	No	C>MEC
8	Mercury	0.051	0.005	0.018	No	C>MEC
9	Nickel	8.3	6.4	N/A	No	C>MEC
10	Selenium	71	13.8	N/A	No	C>MEC
11	Silver	2.2	0.14	0.24	No	C>MEC
12	Thallium	6.3	0.02	N/A	No	C>MEC
13	Zinc	85	26	N/A	No	C>MEC
14	Cyanide	1	<0.004	0.5	No	C>MEC
15	Asbestos	N/A	N/A	N/A	No	N/A
16	2,3,7,8-TCDD (Dioxin)	1.4E-8	<2.6E-11	N/A	No	C>MEC
17	Acrolein	780	< 1.24	N/A	No	All ND
18	Acrylonitrile	0.66	< 0.96	N/A	No	All ND
19	Benzene	71	< 0.11	N/A	No	All ND
20	Bromoform	360	0.37	N/A	No	All ND
21	Carbon Tetrachloride	4.4	< 0.34	N/A	No	All ND
22	Chlorobenzene	21,000	< 0.15	N/A	No	All ND
23	Dibromochloromethane	34	7.63	N/A	No	C>MEC
24	Chloroethane	No criteria	< 0.31	N/A	No	No criteria, All ND
25	2-chloroethyl vinyl ether	No criteria	< 0.54	N/A	No	No criteria, All ND
26	Chloroform	No criteria	2.13	N/A	No	No criteria
27	Dichlorobromomethane	46	1.9	N/A	No	C>MEC
28	1,1-dichloroethane	No criteria	< 0.16	N/A	No	No criteria, All ND
29	1,2-dichloroethane	99	< 0.09	N/A	No	All ND

REVISED TENTATIVE

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L	RPA Result - Need Limitation ?	Reason
30	1,1-dichloroethylene	3.2	< 0.2	N/A	No	All ND
31	1,2-dichloropropane	39	< 0.16	N/A	No	All ND
32	1,3-dichloropropylene	1,700	< 0.1	N/A	No	All ND
33	Ethylbenzene	29,000	0.2	N/A	No	All ND
34	Methyl bromide	4,000	< 1.02	N/A	No	All ND
35	Methyl chloride	No criteria	< 0.15	N/A	No	No criteria, All ND
36	Methylene chloride	1,600	0.8	N/A	No	C>MEC
37	1,1,2,2-tetrachloroethane	11	< 0.19	N/A	No	All ND
38	Tetrachloroethylene	8.85	0.71	N/A	No	C>MEC
39	Toluene	200,000	1.6	N/A	No	C>MEC
40	Trans 1,2-Dichloroethylene	140,000	< 0.21	N/A	No	All ND
41	1,1,1-Trichloroethane	No criteria	< 0.5	N/A	No	No criteria, All ND
42	1,1,2-Trichloroethane	42	< 0.2	N/A	No	All ND
43	Trichloroethylene	81	0.18	N/A	No	C>MEC
44	Vinyl Chloride	525	< 0.5	N/A	No	All ND
45	2-chlorophenol	400	< 0.09	N/A	No	All ND
46	2,4-dichlorophenol	790	< 5	N/A	No	All ND
47	2,4-dimethylphenol	2,300	< 0.17	N/A	No	All ND
48	4,6-dinitro-o-cresol (2-methyl-4,6-Dinitrophenol)	765	< 0.4	N/A	No	All ND
49	2,4-dinitrophenol	14,000	< 0.21	N/A	No	All ND
50	2-nitrophenol	No criteria	< 0.09	N/A	No	No criteria, All ND
51	4-nitrophenol	No criteria	< 0.06	N/A	No	No criteria, All ND
52	3-Methyl-4-Chlorophenol (P-chloro-m-cresol)	No criteria	< 0.18	N/A	No	No criteria, All ND
53	Pentachlorophenol	7.9	< 0.4	N/A	No	All ND
54	Phenol	4,600,000	< 0.4	N/A	No	All ND
55	2,4,6-trichlorophenol	6.5	5.91	N/A	No	C>MEC
56	Acenaphthene	2,700	< 0.13	N/A	No	All ND
57	Acenaphthylene	No criteria	< 0.13	N/A	No	No criteria, All

REVISED TENTATIVE

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L	RPA Result - Need Limitation ?	Reason
						ND
58	Anthracene	110,000	< 0.11	N/A	No	All ND
59	Benzidine	0.00054	< 5	N/A	No	All ND
60	Benzo(a)Anthracene	0.049	< 0.14	N/A	No	All ND
61	Benzo(a)Pyrene	0.049	< 0.13	N/A	No	All ND
62	Benzo(b)Fluoranthene	0.049	0.046	N/A	No	C>MEC
63	Benzo(ghi)Perylene	No criteria	0.03	N/A	No	No criteria
64	Benzo(k)Fluoranthene	0.049	0.048	N/A	No	C>MEC
65	Bis(2-Chloroethoxy) methane	No criteria	< 0.05	N/A	No	No criteria, All ND
66	Bis(2-Chloroethyl)Ether	1.4	< 0.09	N/A	No	All ND
67	Bis(2-Chloroisopropyl) Ether	170,000	< 0.05	N/A	No	All ND
68	Bis(2-Ethylhexyl)Phthalate	5.9	4	N/A	No	C>MEC
69	4-Bromophenyl Phenyl Ether	No criteria	< 0.07	N/A	No	No criteria, All ND
70	Butylbenzyl Phthalate	5,200	< 0.04	N/A	No	All ND
71	2-Chloronaphthalene	4,300	< 0.07	N/A	No	All ND
72	4-Chlorophenyl Phenyl Ether	No criteria	< 0.04	N/A	No	No criteria, All ND
73	Chrysene	0.049	0.013	N/A	No	C>MEC
74	Dibenzo(a,h)Anthracene	0.049	0.04	N/A	No	C>MEC
75	1,2-Dichlorobenzene	17,000	< 0.06	N/A	No	All ND
76	1,3-Dichlorobenzene	2,600	< 0.05	N/A	No	All ND
77	1,4-Dichlorobenzene	2,600	< 0.07	N/A	No	All ND
78	3-3'-Dichlorobenzidine	0.077	< 0.11	N/A	No	All ND
79	Diethyl Phthalate	120,000	< 0.06	N/A	No	All ND
80	Dimethyl Phthalate	2,900,000	< 0.27	N/A	No	All ND
81	Di-n-Butyl Phthalate	12,000	< 0.05	N/A	No	All ND
82	2-4-Dinitrotoluene	9.1	< 0.08	N/A	No	All ND
83	2-6-Dinitrotoluene	No criteria	< 0.022	N/A	No	All ND
84	Di-n-Octyl Phthalate	No criteria	< 0.5	N/A	No	No criteria, All ND
85	1,2-Diphenylhydrazine	0.54		N/A	No	

REVISED TENTATIVE

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L	RPA Result - Need Limitation ?	Reason
86	Fluoranthene	370	< 0.02	N/A	No	All ND
87	Fluorene	14,000	< 0.02	N/A	No	All ND
88	Hexachlorobenzene	0.00077	< 0.07	N/A	No	All ND
89	Hexachlorobutadiene	50	< 0.07	N/A	No	All ND
90	Hexachlorocyclopentadiene	17,000	< 2.9	N/A	No	All ND
91	Hexachloroethane	8.9	< 0.07	N/A	No	All ND
92	Indeno(1,2,3-cd)Pyrene	0.049	0.03	N/A	No	C>MEC
93	Isophorone	600	< 0.07	N/A	No	All ND
94	Naphthalene	No criteria	0.008	N/A	No	No criteria, C>MEC
95	Nitrobenzene	1,900	< 0.05	N/A	No	All ND
96	N-Nitrosodimethylamine	8.1	< 0.17	N/A	No	All ND
97	N-Nitrosodi-n-Propylamine	1.4	< 0.13	N/A	No	All ND
98	N-Nitrosodiphenylamine	16	< 0.09	N/A	No	All ND
99	Phenanthrene	No criteria	< 0.01	N/A	No	No criteria, All ND
100	Pyrene	11,000	0.08	N/A	No	C>MEC
101	1,2,4-Trichlorobenzene	No criteria	< 0.08	N/A	No	No criteria, All ND
102	Aldrin	0.00014	<0.003	N/A	No	All ND
103	Alpha-BHC	0.013	<0.003	N/A	No	All ND
104	Beta-BHC	0.046	<0.003	N/A	No	All ND
105	Gamma-BHC (Lindane)	0.063	<0.003	N/A	No	All ND
106	delta-BHC	No criteria	<0.003	N/A	No	No criteria, All ND
107	Chlordane	0.00059	<0.07	N/A	No	All ND
108	4,4'-DDT	0.00059	<0.003	N/A	No	All ND
109	4,4'-DDE	0.00059	<0.004	N/A	No	All ND
110	4,4'-DDD	0.00084	<0.004	N/A	No	All ND
111	Dieldrin	0.00014	<0.005	N/A	No	All ND
112	Alpha-Endosulfan	0.0087	<0.008	N/A	No	All ND
113	Beta-Endosulfan	0.0087	<0.007	N/A	No	All ND
114	Endosulfan Sulfate	240	<0.003	N/A	No	All ND

CTR No.	Constituent	Applicable Water Quality Criteria (C) µg/L	Max Effluent Conc. (MEC) µg/L	Maximum Detected Receiving Water Conc.(B) µg/L	RPA Result - Need Limitation ?	Reason
115	Endrin	0.0023	<0.005	N/A	No	All ND
116	Endrin Aldehyde	0.81	<0.002	N/A	No	All ND
117	Heptachlor	0.00021	<0.003	N/A	No	All ND
118	Heptachlor Epoxide	0.00011	<0.003	N/A	No	All ND
119	PCB 1016	0.00017	<0.06	N/A	No	All ND
120	PCB 1221	0.00017	<0.49	N/A	No	All ND
121	PCB 1232	0.00017	<0.1	N/A	No	All ND
122	PCB 1242	0.00017	<0.2	N/A	No	All ND
123	PCB 1248	0.00017	<0.1	N/A	No	All ND
124	PCB 1254	0.00017	<0.04	N/A	No	All ND
125	PCB 1260	0.00017	<0.07	N/A	No	All ND
126	Toxaphene	0.0002	<0.1	N/A	No	All ND
	Radioactivity				No	All ND

4. WQBEL Calculations

- a. **Calculation Options.** Once RPA has been conducted using either the TSD or the SIP methodologies, WQBELs are calculated. Alternative procedures for calculating WQBELs include dilution credits of 61 granted by the State Board for ammonia, MBAS, copper, and chronic toxicity. The ambient background concentrations in receiving water of ammonia, MBAS, copper, and chronic toxicity are <0.02 mg/L, 0.12 mg/L, 1.8 µg/L, and 1 TUc, respectively, which are less or equal to their water quality criteria, which are 0.47 mg/L, 0.5 mg/L, 3.7µg/L, and 1 TUc, respectively. Therefore, these chemicals are granted with dilution credits of 61.
- b. **SIP Calculation Procedure.** Section 1.4 of the SIP requires the step-by-step procedure to “adjust” or convert CTR numeric criteria into Average Monthly Effluent Limitations (AMELs) and Maximum Daily Effluent Limitations (MDELs), for toxics.

Step 3 of Section 1.4 of the SIP (page 8) lists the statistical equations that adjust CTR criteria for effluent variability.

Step 5 of Section 1.4 of the SIP (page 10) lists the statistical equations that adjust CTR criteria for averaging periods and exceedance frequencies of the criteria/objectives. This section also reads, “For this method only,

maximum daily effluent limitations shall be used for publicly-owned treatment works (POTWs) in place of average weekly limitations.

Sample calculation for Copper:

Step 1: Identify applicable water quality criteria

From California Toxics Rule (CTR), we can obtain the Criterion Maximum Concentration (CMC) and the Criterion Continuous Concentration (CCC).

Saltwater Aquatic Life Criteria:

CMC = 5.8 µg/L (CTR page 31712, column B1) and

CCC = 3.7 µg/L (CTR page 31712, column B1); and

The above numeric values are total recoverable limitations.

Step 2: Calculate effluent concentration allowance (ECA)

$ECA = C + D \times (C - B)$, when $C > B$

C = Criteria in CTR

D = Dilution Credit

B = Ambient Background Concentration

Therefore,

$ECA \text{ acute} = 5.8 \mu\text{g/L} + 61 \times (5.8 \mu\text{g/L} - 1.8 \mu\text{g/L}) = 249.8 \mu\text{g/L}$; and,

$ECA \text{ chronic} = 3.7 \mu\text{g/L} + 61 \times (3.7 \mu\text{g/L} - 1.8 \mu\text{g/L}) = 119.6 \mu\text{g/L}$

Step 3: Determine long-term average (LTA) discharge condition

Calculate CV:

$CV = \text{Standard Deviation}/\text{Mean} = 3.3559/3.2000 = 1.0487$

ECA Multiplier acute = 0.1954 and

ECA Multiplier chronic = 0.3588

LTA acute = ECA acute x ECA Multiplier acute

$= 249.8 \mu\text{g/L} \times 0.1954 = 48.8 \mu\text{g/L}$

LTA chronic = ECA chronic x ECA Multiplier chronic

$= 119.6 \mu\text{g/L} \times 0.3588 = 42.9 \mu\text{g/L}$

Step 4: Select the lowest LTA, which is 42.9 µg/L.

Step 5: Calculate the Average Monthly Effluent Limitation (AMEL) & Maximum Daily Effluent Limitation (MDEL) for AQUATIC LIFE

Find the multipliers.

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AMEL Multiplier = 1.9923
MDEL Multiplier = 5.1165

AMEL aquatic life = lowest LTA (from Step 4) x AMEL Multiplier
= 42.9 µg/L x 1.9923 = 85.5 µg/L
MDEL aquatic life = lowest LTA (from Step 4) x MDEL Multiplier
= 42.9 µg/L x 5.1165 = 219.6 µg/L

Step 6: Find the Average Monthly Effluent Limitation (AMEL) & Maximum Daily Effluent Limitation (MDEL) for HUMAN HEALTH

It is not available, due to no human health CTR.

Step 7: Compare the AMELs for Aquatic life and Human health and select the lowest. Compare the MDELs for Aquatic life and Human health and select the lowest

Lowest AMEL = 85.5 µg/L \cong 86 µg/L (Based on Aquatic Life protection)
Lowest MDEL = 219.6 µg/L \cong 220 µg/L (Based on Aquatic Life protection)

- d. **Impracticability Analysis.** Federal NPDES regulations contained in Subsection 122.45 40 CFR for continuous dischargers, states that all permit limitations, standards, and prohibitions, including those to achieve water quality standards, shall unless impracticable be stated as maximum daily and average monthly discharge limitations for all dischargers other than POTWs.

As stated by USEPA in its long standing guidance for developing water quality-based effluent limitations (WQBELs) average alone limitations are not practical for limiting acute, chronic, and human health toxic effects.

For example, a POTW sampling for a toxicant to evaluate compliance with a 7-day average limitation could fully comply with this average limit, but still be discharging toxic effluent on one, two, three, or up to four of these seven days and not be meeting 1-hour average acute criteria or 4-day average chronic criteria. For these reason, USEPA recommends daily maximum and 30-day average limits for regulating toxics in all NPDES discharges. For the purposes of protecting the acute effects of discharges containing toxicants (CTR human health for the ingestion of fish), daily maximum limitations can be established in NPDES permits for substances such as mercury, because they are considered to be carcinogens, endocrine disruptors, and bioaccumulative.

A 7-day average alone would not protect one, two, three, or fours days of discharging pollutants in excess of the acute and chronic criteria. Fish exposed to these endocrine disrupting chemicals will be passed on to the

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human consumer. Endocrine disrupters alter hormonal functions by several means. These substances can:

- i. Mimic or partly mimic the sex steroid hormones estrogens and androgens (the male sex hormone) by binding to hormone receptors or influencing cell signaling pathways.
 - ii. Block, prevent and alter hormonal binding to hormone receptors or influencing cell signaling pathways.
 - iii. Alter production and breakdown of natural hormones.
 - iv. Modify the making and function of hormone receptors.
- e. **Mass based limits.** 40 CFR section 122.45(f)(1) requires that except under certain conditions, all permit limits, standards, or prohibitions be expressed in terms of mass units. 40 CFR section 122.45(f)(2) allows the permit writer, at its discretion, to express limits in additional units (e.g., concentration units). The regulations mandate that, where limits are expressed in more than one unit, the permittee must comply with both.

Generally, mass-based limits ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limits. Concentration-based effluent limits, on the other hand, discourage the reduction in treatment efficiency during low-flow periods and require proper operation of the treatment units at all times. In the absence of concentration-based effluent limits, a permittee would be able to increase its effluent concentration (i.e., reduce its level of treatment) during low-flow periods and still meet its mass-based limits. To account for this, this permit includes mass and concentration limits for some constituents.

- i. ~~Mimic or partly mimic the sex steroid hormones estrogens and androgens (the male sex hormone) by binding to hormone receptors or influencing cell signaling pathways.~~
- ii. ~~Block, prevent and alter hormonal binding to hormone receptors or influencing cell signaling pathways.~~
- iii. ~~Alter production and breakdown of natural hormones.~~
- iv. ~~Modify the making and function of hormone receptors.~~

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Summary of Water Quality-based Effluent Limitations Discharge Points 001

Table 87. Summary of Water Quality-based Effluent Limitations at 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
MBAS	mg/L	31	--	--	--	--
	lbs/day ²⁰	7,800	--	--	--	--
Ammonia Nitrogen	mg/L	29	--	195	--	--
	lbs/day ²⁰	7,300	--	49,000	--	--
Copper	µg/L	86	--	220	--	--
	lbs/day ²¹	21		55	--	--

5. Whole Effluent Toxicity (WET)

Because of the nature of industrial discharges into the POTW sewershed, it is possible that other toxic constituents could be present in the TIFWRP effluent, or could have synergistic or additive effects. Also, because numeric limits for certain toxic constituents that did not show RP have been removed, the acute toxicity limit may provide a backstop to preventing the discharge of toxic pollutants in toxic amounts.

The toxicity numeric effluent limitations are based on:

- a. 40 CFR 122.44(d)(v) – limits on whole effluent toxicity are necessary when chemical-specific limits are not sufficient to attain and maintain applicable numeric or narrative water quality standards;
- b. 40 CFR 122.44(d)(vi)(A) – where a State has not developed a water quality criterion for a specific pollutant that is present in the effluent and has reasonable potential, the permitting authority can establish effluent limits using numeric water quality criterion;
- c. Basin Plan objectives and implementation provisions for toxicity;
- d. Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity

²⁰ The mass emission rates are based on the plant design flow rate of 30 mgd, and are calculated as follows: Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

²¹ The mass emission rates are based on the plant design flow rate of 30 mgd, and are calculated as follows: Flow (MGD) x Concentration (µg/L) x 0.00834 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

- Programs Final May 31, 1996;
- e. Whole Effluent Toxicity (WET) Control Policy July 1994; and,
- f. Technical Support Document (several chapters and Appendix B).

However, the circumstances warranting a numeric chronic toxicity effluent limitation when there is reasonable potential were under review by the State Board in SWRCB/OCC Files A-1496 & A-1496(a) [Los Coyotes/Long Beach Petitions]. On September 16, 2003, at a public hearing, the State Board adopted Order No. 2003-0012 deferring the issue of numeric chronic toxicity effluent limitations until a subsequent Phase of the SIP is adopted. In the mean time, the State Board replaced the numeric chronic toxicity limit with a narrative effluent limitation and a 1 TUC trigger, in the Long Beach and Los Coyotes WRP NPDES permits. This permit contains a similar narrative chronic toxicity effluent limitation, with a numeric trigger for accelerated monitoring.

Phase II of the SIP has been adopted, however, the toxicity control provisions were not revised.

On January 17, 2006, the State Board Division of Water Quality held a California Environmental Quality Act (CEQA) scoping meeting to seek input on the scope and content of the environmental information that should be considered in the planned revisions of the Toxicity Control Provisions of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). However, the Toxicity Control Provisions of the SIP continue unchanged.

This Order contains a reopener to allow the Regional Board to modify the permit, if necessary, consistent with any new policy, law, or regulation. Until such time, this Order will have toxicity limitations that are consistent with the State Board's precedential decision.

- a. Acute Toxicity Limitation:

The Dischargers may test for acute toxicity by using USEPA's *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, October 2002 (EPA-821-R-02-012). Acute toxicity provisions in the accompanying Order are derived from the Basin Plan's toxicity standards (Basin Plan 3-16 and 3-17). The provisions require the Discharger to accelerate acute toxicity monitoring and take further actions to identify the source of toxicity and to reduce acute toxicity.

- b. Chronic Toxicity Limitation and Requirements:

Chronic toxicity provisions in the accompanying Order are derived from the Basin Plan's toxicity standards (Basin Plan 3-16 and 3-17). The provisions require the Discharger to accelerate chronic toxicity monitoring and take further actions to identify the source of toxicity and to reduce chronic toxicity.

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The monthly median trigger of 62 TU_c for chronic toxicity is based on dilution credits of 61 and *USEPA Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity (WET) Programs* Final May 31, 1996 (Chapter 2 – Developing WET Permitting Conditions, page 2-8). The “median” is defined as the middle value in a distribution, above which and below which lie an equal number of values. For example, if the results of the WET testing for a month were 1.5, 1.0, and 1.0 TU_c, the median would be 1.0 TU_c.

The *USEPA Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity (WET) Programs* Final May 31, 1996 (Chapter 2 – Developing WET Permitting Conditions, page 2-8) recommends two alternatives for setting up maximum daily limit: using 2.0 TU_c as the maximum daily limit; or using a statistical approach outlined in the TSD to develop a maximum daily effluent limitation. In this permit, a maximum daily limitation is not prescribed, a trigger for chronic toxicity is prescribed.

D. Final Effluent Limitations

1. Satisfaction of Anti-Backsliding Requirements

The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of effluent limitations for lead, mercury, nickel, silver, cyanide, bis(2-ethylhexyl)phthalate, and dieldrin. The effluent limitations for these pollutants are deleted because they did not show reasonable potential to be in the effluent water. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

2. Satisfaction of Antidegradation Policy

On October 28, 1968, the State Board adopted Resolution No. 68-16, *Maintaining High Quality Water*, which established an antidegradation policy for State and Regional Boards. The State Board has, in State Board Order No. 86-17 and an October 7, 1987 guidance memorandum, interpreted Resolution No. 68-16 to be fully consistent with the federal antidegradation policy. Similarly, the CWA (section 304(d)(4)(B)) and USEPA regulations (40 CFR, Section 131.12) require that all permitting actions be consistent with the federal antidegradation policy. Together, the State and Federal policies are designed to ensure that a water body will not be degraded resulting from the permitted discharge. Discharges in conformance with the provisions of this Order will not result in a lowering of water quality and therefore conform to the antidegradation policies.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations

consist of restrictions on BOD, TSS, pH, and percent removal of BOD and TSS. Restrictions on BOD, TSS and pH are discussed in Section IV.B. of the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA and the applicable water quality standards for purposes of the CWA.

Summary of Final Effluent Limitations Discharge Points 001

Table 98. Summary of Final Effluent Limitations at 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD ₅ 20°C	mg/L	20	30	45	--	--
	lbs/day ²²	16,730	25,100	37,650	--	--
Total Suspended Solids (TSS)	mg/L	15	40	45	--	--
	lbs/day ²²	12,550	33,460	37,640	--	--
pH	standard units	--	--	--	6.5	8.5
Oil and Grease	mg/L	10	--	15	--	--
	lbs/day ²²	8,370	--	12,550	--	--

²² The mass emission rates are based on the plant design flow rate of 30 mgd, and are calculated as follows: Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Settleable Solids	ml/L	0.1	--	0.3	--	--
Total Residual Chlorine	mg/L	0.1	--	--	--	--
	lbs/day ²²	83	--	--	--	--
MBAS	mg/L	31	--	--	--	--
	lbs/day ²²	7,800	--	--	--	--
Ammonia Nitrogen	mg/L	29	--	195	--	--
	lbs/day ²²	7,300	--	49,000	--	--
Copper	µg/L	86	--	220	--	--
	lbs/day ²³	21		55	--	--

E. Reclamation Specifications

1. Current Reclaimed Projects – The production, distribution, and reuse of recycled water are presently regulated under Water Reclamation Requirements (WRRs) and Waste Discharge Requirements (WDRs) Order Nos. R4-2003-0025 (Harbor Water Recycling Project (HWRP) for nonpotable applications) and R4-2003-0134 (HWRP for injection at Dominguez Gap Barrier), adopted by this Board on January 30, 2003 and October 2, 2003, respectively. The HWRP programs are being undertaken by the City to comply with Regional Board Resolution No. 94-009 to ultimately phase out discharge of wastewater into the Los Angeles Harbor.
2. Future Reclaimed Project – The City currently recycles up to 6.75 mgd of tertiary effluent for delivery of 5 mgd (Phase I) of product water to LADWP's Harbor Generating Station and the Barrier, and will achieve the ultimate goal of totally reusing 22.5 mgd (Phase III) of product water by the year 2020.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order.

B. Groundwater

²³ The mass emission rates are based on the plant design flow rate of 30 mgd, and are calculated as follows: Flow (MGD) x Concentration (µg/L) x 0.00834 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

~~Limitations in this Order must protect not only surface receiving water beneficial uses, but also, the beneficial uses of underlying groundwater where there is a recharge beneficial use of the surface water. In addition to a discharge to surface water, there is discharge that can impact groundwater. Sections of the San Gabriel River, near TITP discharge points, are designated as GWR beneficial use. Surface water from the San Gabriel River percolates into the Main San Gabriel Valley and the Central Los Angeles Coastal Plain Groundwater Basins. Since groundwater from these Basins is used to provide drinking water to the community, the groundwater aquifers should be protected.~~

~~However, results of reasonable potential analysis for priority pollutants and non-priority pollutants indicate that there is no reasonable potential to exceed the groundwater criteria. Therefore, effluent limitations for these constituents are not warranted. Not applicable.~~

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

This Order carries forward the treatment plant's influent monitoring requirements.

B. Effluent Monitoring

The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are given in the proposed Monitoring and Reporting Program (Attachment E). This provision requires compliance with the Monitoring and Reporting Program, and is based on 40 CFR 122.44(i), 122.62, 122.63, and 124.5. The Monitoring and Reporting Program is a standard requirement in almost all NPDES permits (including the proposed Order) issued by the Regional Board. In addition to containing definition of terms, it specifies general sampling/analytical protocols and the requirements of reporting spills, violation, and routine monitoring data in accordance with NPDES regulations, the California Water Code, and Regional Board policies. The Monitoring and Reporting Program also contains sampling program specific for the Discharger's wastewater treatment plant. It defines the sampling stations and frequency, pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all pollutants for which effluent limitations are specified. Further, in accordance with Section 1.3 of the SIP, a periodic monitoring is required for all priority pollutants defined by the CTR, for which criteria apply and

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for which no effluent limitations have been established, to evaluate reasonable potential to cause or contribute to an excursion above a water quality standard.

Monitoring for those pollutants expected to be present in the discharge from the facility, will be required as shown on the proposed Monitoring and Reporting Program (Attachment E) and as required in the SIP. Monitoring requirements are largely unchanged from the previous Order. Annual monitoring for priority pollutants in the effluent is required in accordance with the SIP.

The changes in the effluent monitoring at Discharge Serial No. 001 are summarized in the following table.

Table 109. Effluent Monitoring Program Comparison Table

Parameter	Monitoring Frequency (2005 & 2008 Permits)	Monitoring Frequency (2010 Permit)
Total waste flow	Continuous	Continuous
Turbidity	Continuous	Continuous
Total residual chlorine	Continuous	Continuous
Temperature	Weekly	Weekly
pH	Weekly	Weekly
Settleable solids	Weekly	Weekly
Suspended solids	Weekly	Weekly
BOD ₅ 20°C	Weekly	Weekly
Oil and grease	Weekly	Weekly
Dissolved oxygen	Weekly	Weekly
Ammonia nitrogen	Monthly	Monthly
Nitrate + nitrite nitrogen	Monthly	Monthly
Organic nitrogen	Monthly	Monthly
Total nitrogen	Monthly	Monthly
Surfactants (MBAS)	Monthly	Monthly
Surfactants (CTAS)	Monthly	Monthly
Chronic toxicity	Monthly	Monthly
Acute toxicity	Monthly	Monthly
Antimony	Semiannually	Quarterly ²⁴
Arsenic	Semiannually	Quarterly ²⁴
Beryllium	Semiannually	Quarterly ²⁴
Cadmium	Semiannually	Quarterly ²⁴
Chromium (VI & total)	Semiannually	Quarterly ²⁴

²⁴ Although the monitoring data for this pollutant indicate that the discharge does not demonstrate reasonable potential to exceed water quality standards, the monitoring data reported detectable levels of the pollutant. Therefore, the increase in monitoring frequency for this pollutant is warranted.

REVISED TENTATIVE

Parameter	Monitoring Frequency (2005 & 2008 Permits)	Monitoring Frequency (2010 Permit)
Copper	Monthly	Monthly
Lead	Monthly	Quarterly ²⁵
Mercury	Monthly	Quarterly ²⁵
Nickel	Monthly	Quarterly ²⁵
Selenium	Semiannually	Quarterly ²⁴
Silver	Monthly	Quarterly ²⁵
Thallium	Semiannually	Quarterly ²⁴
Zinc	Semiannually	Quarterly²⁴
Cyanide	Monthly	Quarterly ²⁵
Bromoform	Semiannually	Quarterly ²⁴
2,3,7,8-TCDD	Semiannually	Semiannually
Chlorodibromomethane	Semiannually	Quarterly ²⁴
Chloroform	Semiannually	Quarterly ²⁴
Dichlorobromomethane	Semiannually	Quarterly ²⁴
Ethylbenzene	Semiannually	Quarterly ²⁴
Methylene chloride	Semiannually	Quarterly ²⁴
Tetrachloroethylene	Semiannually	Quarterly ²⁴
Toluene	Semiannually	Quarterly ²⁴
Trichloroethylene	Semiannually	Quarterly ²⁴
2,4,6-Trichlorophenol	Semiannually	Quarterly ²⁴
Bis(2-ethylhexyl)phthalate	Monthly	Quarterly ²⁶
Dibenzo(a,h)Anthracene	Semiannually	Quarterly ²⁴
Indeno(1,2,3-cd)Pyrene	Semiannually	Quarterly ²⁴
Pyrene	Semiannually	Quarterly ²⁴
Dieldrin	Monthly	Quarterly²⁵
Pesticide	Semiannually	Semiannually ²⁶
Remaining EPA priority pollutants excluding asbestos	Semiannually	Semiannually ²⁶
Tributyltin	Semiannually	Semiannually ²⁶
Radioactivity	Semiannually	Semiannually ²⁶
CECs	--	Biannually

²⁵ [The reduction in monitoring frequency for this pollutant is warranted because the monitoring data indicate that the discharge does not demonstrate reasonable potential to exceed water quality standards.](#)

²⁶ [The monitoring data for this pollutant are all non-detected and indicate that the discharge does not demonstrate reasonable potential to exceed water quality standards. Therefore, the monitoring frequency for this pollutant remains the same.](#)

~~The reduction of monitoring frequencies for priority pollutants listed in the above Table is warranted because the previous monitoring data for these pollutants indicate that the discharge did not demonstrate reasonable potential to exceed water quality standards.~~

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

This requirement establishes conditions and protocol by which compliance with the Basin Plan narrative water quality objective for toxicity will be demonstrated and in accordance with Section 4.0 of the SIP. Conditions include required monitoring and evaluation of the effluent for acute and chronic toxicity and numerical values for chronic toxicity evaluation to be used as 'triggers' for initiating accelerated monitoring and toxicity reduction evaluation(s).

~~D. Receiving Water Monitoring~~

~~1. Surface Water~~

~~Receiving water monitoring is required to determine compliance with receiving water limitations and to characterize the water quality of the receiving water. Requirements are based on the Basin Plan.~~

~~To implement findings of the San Gabriel River Regional Monitoring Program technical workgroup, the receiving water monitoring program in this Order includes the following modifications to the existing receiving water monitoring program:~~

- ~~a. For constituents currently monitored on a weekly basis (temperature, pH, dissolved oxygen, chlorine, ammonia nitrogen, nitrate nitrogen, nitrite nitrogen, total Kjeldahl nitrogen, total phosphorus, ortho phosphate, total hardness, total coliform and fecal coliform), shifting from weekly to monthly monitoring.~~
- ~~c. Shifting bioassessment monitoring from the fall season to the spring/summer period.~~
- ~~a. Conducting bioassessment monitoring according to the current version of the California Stream Bioassessment Procedure recommended by the State's Surface Water Ambient Monitoring Program (SWAMP).~~

~~The proposed receiving water monitoring program will improve coordination and efficiency of receiving water monitoring for existing discharges in the San~~

~~Gabriel River watershed by streamlining monitoring efforts and reducing redundancies throughout the watershed and will provide more useful water quality data on both watershed and site specific scales.~~

~~2. Groundwater~~

~~Not applicable.~~

~~E. Other Monitoring Requirements~~

~~1. Watershed Monitoring and Bioassessment Monitoring~~

~~The goals of the Watershed-wide Monitoring Program including the bioassessment monitoring for the San Gabriel River Watershed are to:~~

- ~~a. Determine compliance with receiving water limits;~~
- ~~b. Monitor trends in surface water quality;~~
- ~~c. Ensure protection of beneficial uses;~~
- ~~d. Provide data for modeling contaminants of concern;~~
- ~~e. Characterize water quality including seasonal variation of surface waters within the watershed;~~
- ~~f. Assess the health of the biological community; and,~~
- ~~g. Determine mixing dynamics of effluent and receiving waters in the estuary.~~

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address enforcement authority specified in sections 122.41(j)(5) and (k)(2) because the

enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

This provision is based on 40 CFR Parts 122.44(b)(1), 122.44(d)(1)(vi)(C)(4), 122.62, 122.63, and 124.51-23. The Regional Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Board or Regional Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

a. **Constituents of Emerging Concern in the Effluent.** ~~The paucity of information on the occurrence and possible effects of constituents of emerging concern (CECs) in ecosystem and treated municipal wastewater currently limits our ability to define and thus manage risks associated with CECs. Therefore, a need for a more holistic understanding of the effects of CECs on human health and aquatic life is being developed. CECs are likely becoming a target for point source reductions in coming years. The monitoring of CECs in POTW discharge is the first vital and essential milestone to collect the CECs' background information, including constituents identified and their concentrations. See Section VI.C.2.a. in the accompanying Order for detail.~~

i. Advancements in analytical technology over the last decade have dramatically increased the number of chemicals that can be detected and greatly decreased the concentrations at which chemicals can be detected. This new ability to detect trace levels of chemical concentrations has expanded the existing understanding of the kinds of contaminants present in the water and wastewater. Many man-made chemicals, particularly pesticides, pharmaceuticals and personal care products, have been found in waters across the United States. Collectively, these compounds are referred to as Constituents of Emerging Concern (CECs).

ii. Despite recent improvements in analytical science, there is still a paucity of data. CECs are largely unregulated chemicals, for which water quality standards or state notification levels have not been established.

iii. Recent publications and media reports on CECs have increased public awareness of the issue, providing an impetus for CEC investigations around the country, including local efforts by the City of Los Angeles and Southern California Coastal Water Research

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Project (SCCWRP). For instance, starting 2009, the City of Los Angeles has been conducting a special study as part of the Order No. 2005-0020, whose results suggest that the presence of natural and synthetic estrogen hormones has caused feminization of male fish (hornyhead turbot) in Santa Monica Bay, especially near the Hyperion Treatment Plant outfall. We have known that these hormones (a.k.a. CECs) do exit in the fish tissue. The next questions include where the sources of CECs come from and what the organism-level and ecological-level effects are. To ask the POTWs/dischargers starting to monitor the possible CECs in the effluent is a necessary and constructive action.

iv. Since 2003, the CEC monitoring program in the product effluent of the recycled water has been required in the City's Harbor Water Recycling Program, because any unwanted remaining CECs in the recycled water may inadversely impact the receiving groundwater quality. The influent for this project originates from the TIWRP's tertiary-treated wastewater. Ironically, the tertiary-treated wastewater and brine waste being discharged into the Harbor have never been monitored.

v. In recent years, this Regional Water Board has incorporated monitoring of a select group of CECs into the NPDES permits issued to POTWs and will continuously take same actions for the upcoming renewal and new NPDES permits. We need to expand our knowledge of occurrence while coordinating with EPA, SCCWRP, and others to determine further risk and follow-up actions.

b. **Toxicity Reduction Requirements.** The Discharger shall prepare and submit a copy of the Discharger's initial investigation Toxicity Reduction Evaluation (TRE) workplan to the Executive Officer of the Regional Board for approval within 90 days of the effective date of this permit. See Section VI.C.2.b. in the accompanying Order for detail.

c. **Antidegradation Analysis and Engineering Report for Proposed Plant Expansion.** This provision is based on the State Water Resources Control Board Resolution No. 68-16, which requires the Regional Board in regulation the discharge of waste to maintain high quality waters of the State, the Discharger must demonstrate that it has implemented adequate controls (e.g., adequate treatment capacity) to ensure that high quality waters will be maintained. This provision requires the Discharger to clarify it has increased plant capacity through the addition of new treatment system(s) to obtain alternative effluent limitations for the discharge from the treatment system(s). This provision requires the Discharger to report specific time schedules for the plants projects. This provision requires the Discharger to submit report to the Regional Board for approval.

- d. **Operations Plan for Proposed Expansion.** This provision is based on Section 13385(j)(1)(D) of the CWC and allows a time period not to exceed 90 days in which the Discharger may adjust and test the treatment system(s). This provision requires the Discharger to submit an Operations Plan describing the actions the Discharger will take during the period of adjusting and testing to prevent violations.
- e. **Treatment Plant Capacity.** The treatment plant capacity study required by this Order shall serve as an indicator for the Regional Board regarding Facility's increasing hydraulic capacity and growth in the service area.
- f. **Ammonia Receiving Water Monitoring Requirements.** The Discharger shall [delineate concurrently measure](#) the salinity, pH, temperature, and ammonia of the ambient receiving water conditions for stations specified in Section VIII.A.1. of the MRP.

3. **Best Management Practices and Pollution Prevention**

Pollutant Minimization Program. This provision is based on the requirements of Section 2.4.5 of the SIP.

4. **Construction, Operation, and Maintenance Specifications**

This provision is based on the requirements of 40 CFR 122.41(e) and the previous Order.

5. **Special Provisions for Municipal Facilities (POTWs Only)**

- a. **Biosolids Requirements.** To implement CWA Section 405(d), on February 19, 1993, USEPA promulgated 40 CFR 503 to regulate the use and disposal of municipal sewage sludge. This regulation was amended on September 3, 1999. The regulation requires that producers of sewage sludge meet certain reporting, handling, and disposal requirements. It is the responsibility of the Discharger to comply with said regulations that are enforceable by USEPA, because California has not been delegated the authority to implement this program. The Discharger is also responsible for compliance with WDRs and NPDES permits for the generation, transport and application of biosolids issued by the State Board, other Regional Boards, Arizona Department of Environmental Quality or USEPA, to whose jurisdiction the Facility's biosolids will be transported and applied.
- b. **Pretreatment Requirements.** This permit contains pretreatment requirements consistent with applicable effluent limitations, national standards of performance, and toxic and performance effluent standards established pursuant to Sections 208(b), 301, 302, 303(d), 304, 306, 307, 403, 404, 405, and 501 of the CWA, and amendments thereto. This permit contains requirements for the implementation of an effective

pretreatment program pursuant to Section 307 of the CWA; 40 CFR 35 and 403; and/or Section 2233, Title 23, California Code of Regulations.

- c. **Spill Reporting Requirements.** This Order established a reporting protocol for how different types of spills, overflow or bypasses of raw or partially treated sewage from its collection system or treatment plant covered by this Order shall be reported to regulatory agencies.

The State Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on May 2, 2006. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating sanitary sewer overflows. The Discharger must comply with both the General Order and this Order.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the Terminal Island Treatment-Water Reclamation Plant. As a step in the WDR adoption process, Regional Board staff has developed tentative WDRs. The Regional Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided by posting a notice in a newspaper of local circulation and by posting a notice at TIFWRP, San Pedro, California.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Regional Board at the address above on the cover page of this Order.

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To be fully responded to by staff and considered by the Regional Board, written comments on the tentative Order must be received at the Regional Board offices by 12:00 p.m. (noon) on **April 9, 2010**.

C. Public Hearing

The Regional Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: May 6, 2010
Time: 9:00 AM
Location: Metropolitan Water District of Southern California, Board Room
700 North Alameda Street
Los Angeles, California.

Interested persons are invited to attend. At the public hearing, the Regional Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is <http://www.waterboards.ca.gov/losangeles/> where you can access the current agenda for changes in dates and locations.

E. Nature Hearing

This will be a formal adjudicative hearing pursuant to section 648 et seq. of title 23 of the California Code of Regulations. Chapter 5 of the California Administrative Procedure Act (commencing with section 11500 of the Government Code) will not apply to this proceeding.

Ex Parte Communications Prohibited: As a quasi-adjudicative proceeding, no board member may discuss the subject of this hearing with any person, except during the public hearing itself. Any communications to the Regional Board must be directed to staff.

F. Parties to the Hearing

The following are the parties to this proceeding:

1. The applicant/permittee
2. Regional Board Staff

Any other persons requesting party status must submit a written or electronic request to staff not later than [20] business days before the hearing. All parties will be notified if other persons are so designated.

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G. Public Comments and Submittal of Evidence

Persons wishing to comment upon or object to the tentative waste discharge requirements, or submit evidence for the Board to consider, are invited to submit them in writing to the above address. To be evaluated and responded to by staff, included in the Board's agenda folder, and fully considered by the Board, written comments on the tentative Order must be received by 12:00 p.m. (noon) on **April 9, 2010**. Comments or evidence received after that date will be submitted, ex agenda, to the Board for consideration, but only included in administrative record with express approval of the Chair during the hearing. Additionally, if the Board receives only supportive comments, the permit may be placed on the Board's consent calendar, and approved without an oral testimony.

H. Hearing Procedure

The meeting, in which the hearing will be a part of, will start at 9:00 a.m. Interested persons are invited to attend. Staff will present the matter under consideration, after which oral statements from parties or interested persons will be heard. For accuracy of the record, all important testimony should be in writing. The Board will include in the administrative record written transcriptions of oral testimony that is actually presented at the hearing. Oral testimony may be limited to 30 minutes maximum or less for each speaker, depending on the number of persons wishing to be heard. Parties or persons with similar concerns or opinions are encouraged to choose one representative to speak. At the conclusion of testimony, the Board will deliberate in open or close session, and render a decision.

Parties or persons with special procedural requests should contact staff. Any procedure not specified in this hearing notice will be waived pursuant to section 648(d) of title 23 of the California Code of Regulations. Objections to any procedure to be used during this hearing must be submitted in writing not later than close of [15] business days prior to the date of the hearing. Procedural objections will not be entertained at the hearing.

If there should not be a quorum on the scheduled date of this meeting, all cases will be automatically continued to the next scheduled meeting on June 3, 2010. A continuance will not extend any time set forth herein.

I. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

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I. Information and Copying

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Board by calling (213) 576-6600.

J. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Board, reference this facility, and provide a name, address, and phone number.

K. Additional Information

Requests for additional information or questions regarding this order should be directed to Don Tsai at (213) 576-6665.

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